

Public Utilities



Volume 62 No. 1

July 3, 1958

LOAD BUILDING FOR UTILITY EARNING OBJECTIVES

By Frederick W. Kimball

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Good Press Relations Techniques

By Robert Harsha Davidson

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Area Planning for Low-cost Power

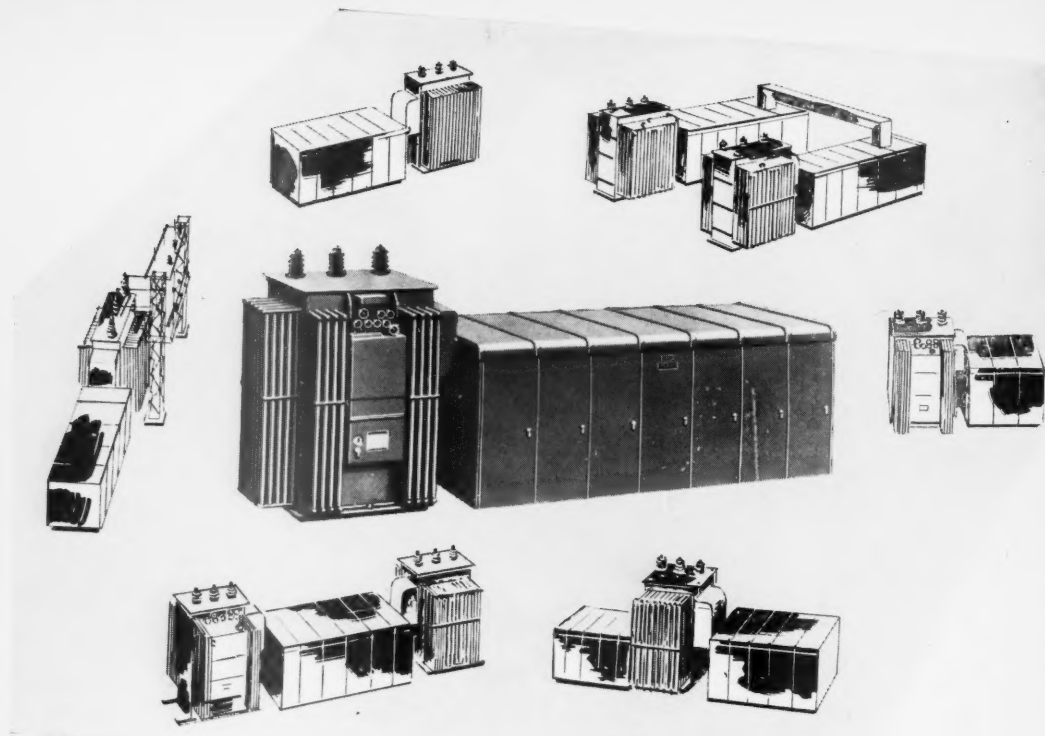
By Edward A. Fontaine

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EEl Holds Twenty-sixth Annual Convention

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Public Utilities

FORTNIGHTLY

VOLUME 62

JULY 3, 1958

NUMBER 1



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"X-RAY" VIEW of the SRT, showing the volt-sensitive regulating mechanism at the top of the core-coil assembly and the under-load tap changer at the lower part. SRT's will be available in the following ratings:

2400 volts, 10 through 25 kva
 4160 volts, 10 through 37½ kva
 4800 volts, 10 through 50 kva
 7200 and 7620 volts, 10 through 75 kva
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L-M Announces the SRT THE WORLD'S FIRST Self-Regulating distribution Transformer

A Revolutionary New Engineering Development That Offers Utility Companies
Better Revenue, Better Service To Their Customers



By A. R. WAEHNER
Director, Transformer Sales, Line Material Industries

The new L-M Self-Regulating Transformer consists of a *Wound-Wound*® distribution transformer with extra taps on the *primary*, and a regulating mechanism that is volt-sensitive to the *secondary*.

The device switches primary taps, *under load*, to change the transformation ratio as needed to maintain a constant normal voltage to the customer, regardless of line or load changes. The SRT provides 10% of regulation in four 2½% steps.

Better Revenue For The Utility

The SRT is a break-through into a whole new world of customer service and profitable operation, because it corrects voltage *at the point of use*. By maintaining proper voltage, SRT prevents the drop in billings caused by *undervoltage*, which in the aggregate can represent a considerable loss.

Improves Service To Customers

With correct voltage, lights are brighter; television sets, clothes dryers, air conditioners, and other electrical devices operate more efficiently; ranges heat faster.

The SRT also prevents *over-voltage* from reaching the user. It greatly reduces burnouts of TV tubes, and of incandescent lamps—the latter a very obvious saving to a utility with a lamp-replacement program.

The SRT is another outstanding contribution
of The Thomas A. Edison Laboratories
of McGraw-Edison Company.

Features Of The SRT

Adapt-a-Tap Range Selector: The SRT provides a full 20% range within which taps for the 10% automatic regulation in four 2½% steps may be selected—all below, straddle, or all above normal. Thus the SRT can be located anywhere on the line—the end, the middle, or near the substation.

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Economy: Under normal conditions the SRT will prove more economical than other means of voltage correction. Thus it opens unlimited horizons to the distribution-system planning engineer for more effective design.

Available For Tests

The initial production of the SRT will be sold to progressive companies to explore the benefits, in improved revenue and better customer service, that are available from this outstanding new development. Thus each company can learn, for itself, the extent to which the SRT can make a substantial contribution toward keeping revenue up and costs down.

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L-M Field Engineers and Apparatus Specialists can furnish detailed information about the SRT. If you would like this information, please get in touch with your L-M Field Engineer, or phone or wire me at Line Material Industries, Milwaukee 1, Wisconsin.



LINE MATERIAL Industries
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Distribution Transformers



Pages with the Editors

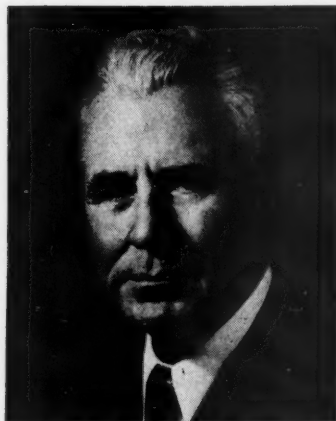
ONE of the most intriguing characteristics of the electric utility industry is the tendency of consumption to rise as the cost per unit of service declines. Some economists and management people would prefer to state the proposition the other way around. They would say that the phenomenon demonstrates the tendency of per unit price to decline as the volume of sales increases.

THIS is an old argument, and one which is about as difficult to settle as the question of which came first—the egg or the chick. But it is a fact that in the past the line of declining prices on a chart through the years shows a pattern almost exactly in reverse to the line of increasing volume of sales. Putting both lines on the same chart, projected over a long enough period, invariably results in the figure “X.”

BUT is this pattern always going to work out that way? Are we taking too much for granted if we assume that the increased volume of sales will always result in sufficient economy of production to permit prices to decline further over the long range? During the past couple of years serious questions have arisen on this point.

UNTIL a few years ago, an electric utility company could generally rely on an increasing volume of sales to improve earnings. This was because the rising efficiency and other production economics made the per unit cost lower in all departments of operation as the volume of sales increased.

BUT today the electric industry is confronted with a new situation. Efficiency potentials have diminished and possibilities for greater economies have all but vanished in the wake of the inflationary spiral of recent years. At today's prices for new construction, companies may have to absorb even a reversal of price *versus* cost patterns notwithstanding volume



ROBERT HARSHA DAVIDSON

sales increases. In the opening article in this issue FREDERICK W. KIMBALL, associate of Booz, Allen & Hamilton (San Francisco office), management consultants, has made a careful analysis of what electric utility companies could do under present situations to build loads so as to achieve better earning performance. The article is fully illustrated with a number of interesting charts dealing with various appliances.

* * * *

ROBERT HARSHA DAVIDSON, formerly press relations officer for the Chesapeake & Potomac Telephone Company of Washington, D. C., is the author of the article on good press relations techniques which begins on page 12 of this issue. For many years he was known as one of the most effective exponents of good press relations for the telephone industry. This veteran public relations expert now gives us the benefit of some excellent suggestions which should be helpful to men in the public relations departments of all types of public utility companies. Despite the limiting suggestion of the title, this writer shows that achievement of good press relations is more than a matter of mere technique, in this author's opinion. It is a matter of careful and constant cultivation, with a lot of give-and-take and mutual building of confidence between the work-

COMBUSTION ENGINEERING, INC.

The huge riverside crane at Combustion's Chattanooga Division, capable of lifting loads in excess of 250 tons, is about to ease the reactor vessel into a 195-ft. barge which will transport it via the Tennessee and Ohio Rivers to Cincinnati. From there it will travel by rail to the Enrico Fermi Atomic Power Plant at Lagoona Beach, Michigan — 30 miles below Detroit.

ATOMIC POWER DEVELOPMENT ASSOCIATES
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Enrico Fermi Atomic Power Plant
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Designed and Manufactured by
COMBUSTION ENGINEERING

AMERICA'S LARGEST NUCLEAR COMPONENT

The nuclear reactor vessel shown here is the most remarkable stainless steel pressure vessel ever built. This 36-foot, 20-ton giant is the container for the nuclear furnace that will power the world's first full-scale, fast-breeder reactor power plant — the Enrico Fermi Atomic Power Plant. Designed by Atomic Power Development Associates, Inc., the nuclear section of this plant will be owned by Power Reactor Development Co., and the turbine-generator section by Detroit Edison Co.

Because of its vast size and complexity, the reactor vessel presented unique problems of design and fabrication. In reality, it comprises four separate cylindrical vessels welded together to form a single unit assembly, plus a large amount of internal shielding the fabrication of which involved the use of 65,000 square feet of stainless steel — all constructed and assembled with a precision never before attempted in

work of this size and character. Additional parts of the vessel, scheduled for later shipment, will bring its total weight to about 200 tons.

No more than two or three plants in the world presently have the skills and facilities even to undertake the production of work of this kind. Combustion not only has the men and machines, but also the experience to produce such reactor vessels. Moreover, it is equipped and qualified to design and manufacture all other major components of complete nuclear power systems.

The Enrico Fermi Plant exemplifies the continuing, urgent drive by electric utility companies to generate electricity at the lowest possible cost, utilizing all developments modern science and technology can produce. Combustion is proud to have shared in this major step of the power industry to prepare itself for the age of the atom.

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ing press and the utility company press department.

DAVIDSON is a native of Tecumseh, Nebraska. He was educated at Hastings College in that state, and the James Millikin University at Decatur, Illinois. He first joined the Chesapeake & Potomac Telephone Company in Washington back in 1913, and was eventually appointed assistant editor of the company's magazine, *The Transmitter*. In 1913 he began to handle press relations for the Chesapeake & Potomac Company until his retirement three years ago as news service manager. He also served for many years as chairman of the public and press relations for the D. C. Chapter of the American Red Cross. For the past two years he has been a vice president of the Telephone Pioneers, of which he is a life member.

* * * *

EDWARD A. FONTAINE, manager of the electric department of Stone & Webster Service Corporation, has written (beginning on page 20) a most persuasive story about the need for pooling electric utility facilities under joint system operations. This is a question which is becoming more and more important to many companies. Indeed, the comparative performance of some companies in the years ahead may depend largely on what arrangements they can make now for sharing with others, or otherwise developing large-scale system operations. With the constant trend towards larger and larger plant generating capacities, the idea of "partnership" has long since passed beyond the realm of political argument. It is now very much a matter for concern among investor-owned companies and their relations to each other.

MR. FONTAINE is a graduate in electrical engineering (1938) from Brown University. He joined the Stone & Webster Service Corporation in 1938, and the following year became junior engineer for the West Coast Power Company. After military service as a Captain in the Signal Corps during World War II, he became assistant engineer in the Sierra Pacific Power Company. Since 1949, however,



EDWARD A. FONTAINE

he has been with the Stone & Webster Service Corporation headquarters in Boston, where he is now manager of the electric department.

* * * *

WE would like to invite the attention of our readers to a slightly different method of distributing the semiannual index to PUBLIC UTILITIES FORTNIGHTLY. With the next issue (July 17th) there will be found, slipped under the cover but not otherwise bound, the semiannual index to Volume 61, covering the first six months of 1958. In former years the semiannual index has been bound into the first issue following the completion of the volume (which would be this issue). This practice, however, necessarily resulted in distributing the index bound into an issue belonging to a different volume.

To permit more flexible usage, especially for those subscribers accustomed to having their issues bound as library reference volumes, we are now distributing the semiannual index as a separate booklet. It may, in this way, be transferred to the volume to which it belongs, and may be bound either at the beginning or end of that volume, or otherwise used as the subscriber prefers.

THE next number of this magazine will be out July 17th.

The Editors



Lifelines of the nation!

Playing a dynamic role in the economy of our nation, the investor-owned Utility Industry continues to expand its lifelines of service. Not only meeting the needs of today's consumers, but preparing also for an atomic age, Utilities are faced with enormous capital expansion requirements.

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(July 17, 1958, issue)



KEEPING UP WITH UTILITY RATE REGULATION

This article by Charles A. Ashby, Jr., manager of the rate department of Stone & Webster Service Corporation, is a comprehensive discussion of problems involved in rate regulation and certain basic considerations which should be given weight by those charged with responsibility for preparing public utility rate cases. While readers may find that the groundwork covered is a familiar one, this author has an original method of restating guiding principles which shed new light on some well-known and long-standing problems.

UTILITY-MUNICIPAL PARTNERSHIP IN WATER SUPPLY

Public utility companies everywhere, especially electric light and power companies, have a very close community of interest with the municipal governments in their service areas with respect to the availability of adequate and suitable water supplies. This is becoming a problem of increasing importance and difficulty to cities and towns all over the country due to growing population, as well as growing per capita and industrial demand. But nowhere is the water supply situation more acute than in the state of Texas, which is the home of the author of this article, Howard R. Drew, senior engineer for the Texas Electric Service Company of Fort Worth. Mr. Drew shows how both the electric company and various communities in its system can benefit by coordinated planning and construction tied in with mutual research and other forms of municipal-utility co-operation.

WHAT CAN BE DONE ABOUT THE RIGHT-OF-WAY PROBLEM?

This is an article by an assistant engineer who asks what utility industries can do in solving various right-of-way problems. He is M. C. Westrate of Commonwealth Associates, Inc., Jackson, Michigan. Admitting that neither one nor a hundred magazine articles could ever solve the problems of acquiring land for utility use, this author does give a general description of practical alternatives. System planning engineers everywhere, as well as other utility management people, will profit by this brief outline of general principles. It covers future price estimation of known sites as well as speculation as to the availability of suitable property in the future. The complication of zoning restrictions is also touched upon.

SOME CRITICAL THOUGHTS ON COST OF CAPITAL

The determination of the cost of capital depends to a large extent on the earning capacity of a company wishing the capital. But in the case of a regulated public utility the earning capacity may, in turn, depend on the impact of the cost-of-capital approach by the regulatory authority in determining the rate of return allowance. Is this circular reasoning, which results in a built-in sort of conflict, making the cost-of-capital approach a defective one? Leonard A. O'Connor, formerly with the public utilities division of the Securities and Exchange Commission, and now on the controller's staff of The Connecticut Light & Power Co., has made some interesting and rather critical comments on the use of cost of capital.



Also . . . Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.

"One-Step" analyses

... long step toward better rates

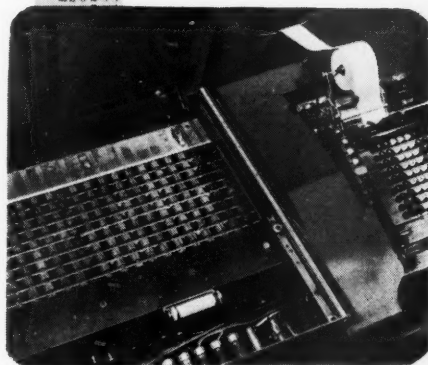
CONTINUING monthly billing analyses produced by the "One-Step" Method* provide — complete, accurately documented data on past and present operations, plus a sound base for forecasting future ones. Having data in depth on these important factors is indeed a *long* step toward securing better rates, because they present to commissions unassailable facts which help to justify the granting of rate increases. In the 20 years we have served utility companies R & S analyses have figured prominently in hundreds of rate cases—commissions know and respect the validity of our work, a plus factor in your favor.

Using the "One-Step" Method is simplicity itself, because all the work is done in our office, neither your personnel nor equipment are required. Cost-conscious utility executives will be pleased with the modest cost of our service; less in fact than preparation by their own staffs, and production of data is much faster.

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Remarkable Remarks

"There never was in the world two opinions alike."

—MONTAIGNE

HERBERT HOOVER
Former President of the United States.

"... the American people have often in the past dealt with many recessions and with great crises from development of scientific discoveries and their new inventions. We have come out bigger and stronger than ever before. And we will again."

ROGER M. BLOUGH
Chairman of the board, United States Steel Corporation.

"Now is the time for industrialists to build. There are no shortages of materials and there is more financial credit. . . . Companies which take advantage of these times to expand, will have competitive and productive advantages when consumer demand increases."

HENRY H. HEIMANN
Executive vice president, National Association of Credit Men.

"It would be much better if many of the projects undertaken by the federal government were left to state control and planning. The nearer the expending of tax receipts to home or to the sources of collection, the greater control you exercise over them, both as to the rate of tax and the money received from taxation."

J. LEWIS POWELL
Official, Department of Defense.

"... we must restore the prestige of brains and respect for intelligence and disciplined minds in every phase of American life. Material things get obsolete. But the ability to think need not get obsolete. It is your brains, your initiative, your imagination, and your know-how which we need to store in the arsenal of democracy."

RICHARD M. NIXON
Vice President of the United States.

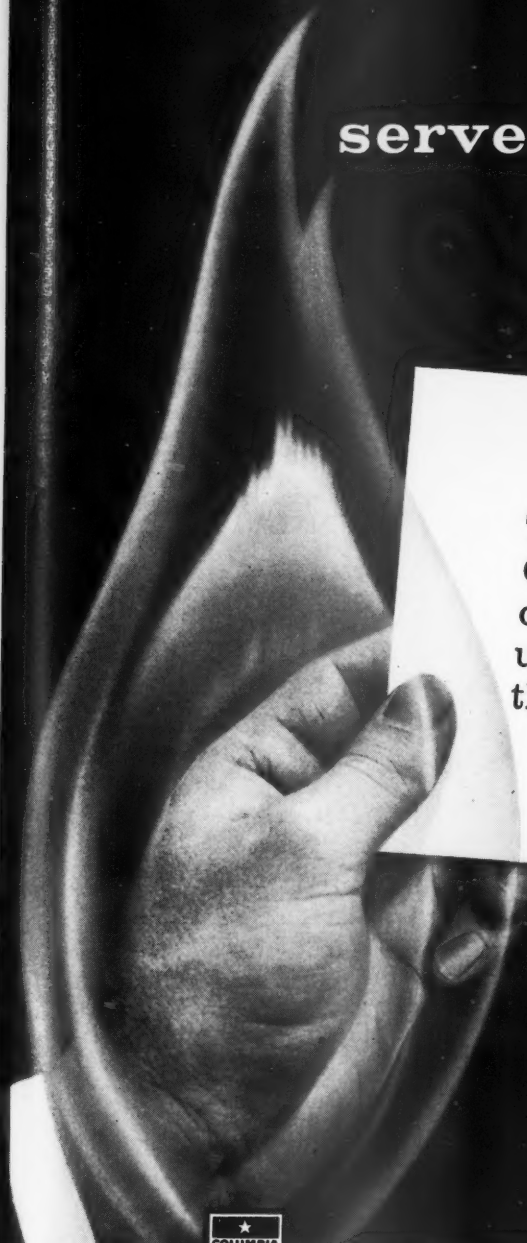
"We can't tie down our scientists to specific objectives which military men or political leaders may deem possible. The greatest advances mankind has made in the scientific field were not when scientists were told to reach a certain objective, but when they had in effect complete freedom in basic research in exploring the unknown."

BERNARD M. BARUCH
Financier.

"Nothing is more dangerous than this notion that economic salvation lies through government intercession. Government did not keep us from getting into our present condition. How can we rely upon it to get us out of it? Let us not turn always to the government for succor, but remember that a free government depends always upon the people for sustenance."

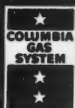
GEORGE M. HUMPHREY
Former Secretary of the Treasury.

"The best that government can do to strengthen our economy is to provide a fertile field in which millions of Americans can work. The continued success of our economy depends, not upon government, but upon the efforts of all the people trying to do a little more for themselves and their loved ones. It is the sum total of all these individual efforts that makes our system superior to anything known in this world before. It is what makes America."



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Virginia, Maryland and southern New
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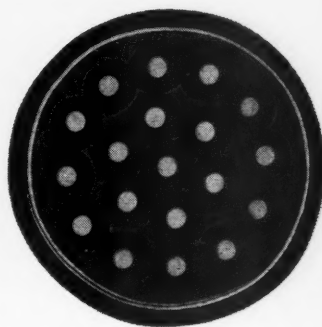
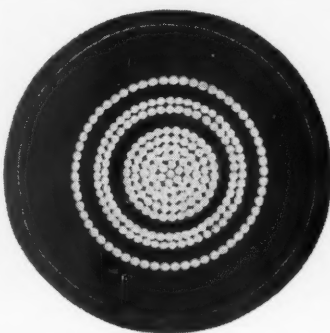
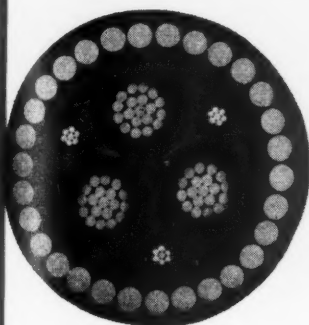
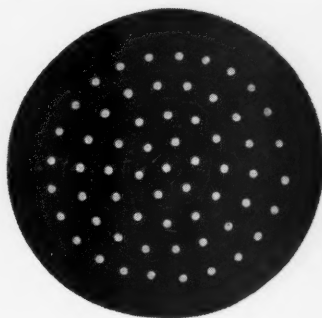
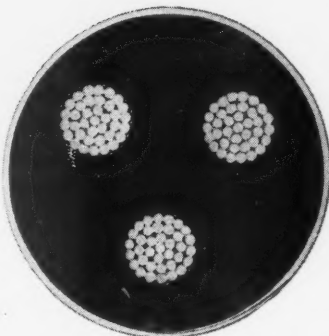
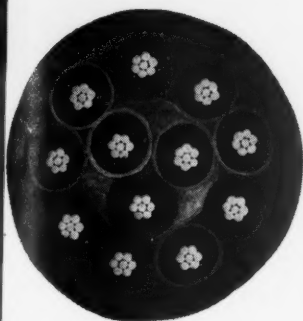
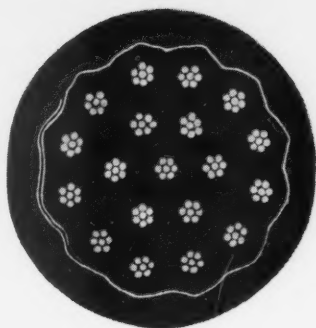
File analysts studied the existing systems, inventoried the records, established records retention controls, reorganized the system based on findings of the analysis, set up operating manuals for each department and all phases of operation and trained the necessary personnel for operating and perpetuating the system.

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Shown: New Dodge Tradesman—a pick-up with side load

You get extra quality at no extra cost— Dodge is one of the low-priced 3!

You may be surprised to know, for instance, that a standard Dodge *Power Giant* V-8 pick-up costs \$2.66 less than pick-up "F", and only \$5.50 more than pick-up "C" . . . that a rugged Dodge *Power Giant* panel costs less than either panel "F" or panel "C". Yet Dodge *Power Giants* give you many more advantages, leading the low-priced three in all four important ways:

First in power! Discover the extra traffic pep and extra pulling power that you get from *Power Giant* V-8's, with up to 27.5% more power than competitive trucks.

First in payload! You'll find you get as much as $\frac{1}{8}$ more payload per trip, because *Power Giant* construction adds extra strength without adding weight. You save trips, man-hours and fuel!

First in economy! In addition to low first cost you save with exclusive Dodge Power-Dome engine design that gives you extra gas mileage and reduces power-robbing carbon deposits.

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Despite all their advantages, Dodge trucks are priced with the lowest. So before you buy any truck, look into these handsome, rugged new *Power Giant*. Compare trucks, and compare prices. See your Dodge dealer soon, and get his special 40th Anniversary deal!

**Based on official factory-suggested retail V-8 prices.*

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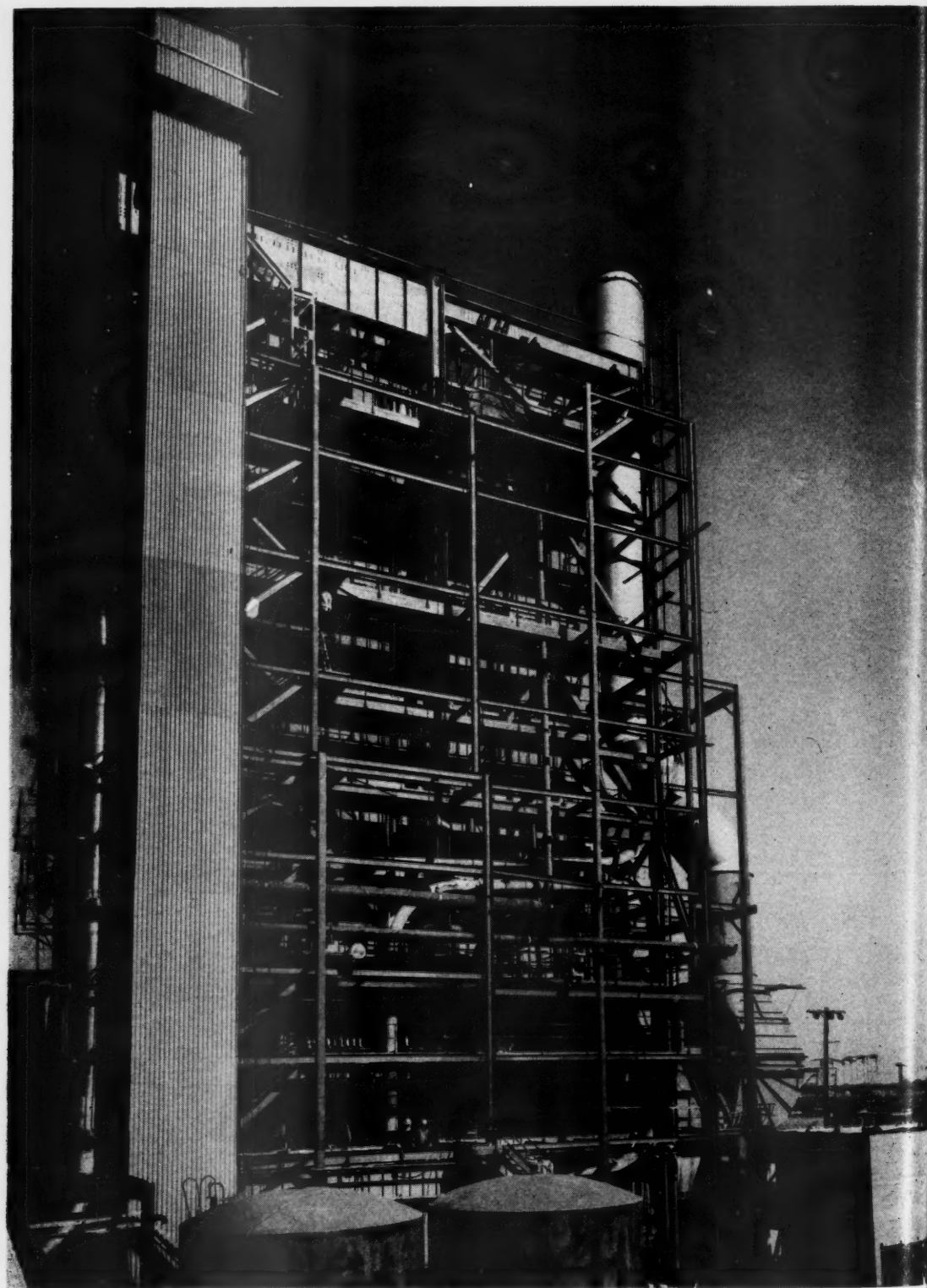
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UTILITIES

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JULY

<p>Thursday—3</p> <p><i>Western Summer Radio-Television and Appliance Market will hold western merchandise mart, San Francisco, Cal. July 21-25. Advance notice.</i></p>	<p>Friday—4</p> <p><i>Southeastern Electric Exchange Public Utility Executive Course will be held, Atlanta, Ga. Aug. 4-29. Advance notice.</i></p>	<p>Saturday—5</p> <p><i>American Institute of Electrical Engineers will hold special technical conference on nonlinear magnetics and magnetic amplifiers, Los Angeles, Cal. Aug. 6-8. Advance notice.</i></p>	<p>Sunday—6</p> <p><i>Alaska Telephone Convention will be held, Juneau, Alaska. Aug. 11-13. Advance notice.</i></p>
<p>Monday—7</p> <p><i>National Housewares and Home Appliance Manufacturers Exhibits begin, Atlantic City, N. J.</i></p>	<p>Tuesday—8</p> <p><i>The Institute of Radio Engineers will hold conference on electronic standards and measurements, Boulder, Colo. Aug. 13-15. Advance notice.</i></p>	<p>Wednesday—9</p> <p><i>Illuminating Engineering Society will hold national technical conference, Toronto, Ontario, Canada. Aug. 17-22. Advance notice.</i></p> <p style="text-align: center;">Ⓒ</p>	<p>Thursday—10</p> <p><i>Colorado Farm Power Council begins electric house-heating school, Fort Collins, Colo.</i></p>
<p>Friday—11</p> <p><i>American Institute of Electrical Engineers will hold Pacific general meeting, Sacramento, Cal. Aug. 19-22. Advance notice.</i></p>	<p>Saturday—12</p> <p><i>Appalachian Gas Measurement Short Course will be held, Morgantown, W. Va. Aug. 25-27. Advance notice.</i></p>	<p>Sunday—13</p> <p><i>International Conference on Peaceful Uses of Atomic Energy will be held, Geneva, Switzerland. Sept. 1-13. Advance notice.</i></p>	<p>Monday—14</p> <p><i>Pacific Coast Gas Association will hold annual meeting, Portland, Ore. Sept. 3-5. Advance notice.</i></p>
<p>Tuesday—15</p> <p><i>New Jersey Gas Association will hold annual meeting, Spring Lake, N. J. Sept. 5. Advance notice.</i></p>	<p>Wednesday—16</p> <p><i>World Power Conference will be held, Montreal, Quebec, Canada. Sept. 7-11. Advance notice.</i></p> <p style="text-align: center;">Ⓒ</p>	<p>Thursday—17</p> <p><i>American Water Works Association, Michigan Section, will hold annual meeting, Grand Rapids, Mich. Sept. 8-10. Advance notice.</i></p>	<p>Friday—18</p> <p><i>Maryland Utilities Association will hold fall conference, Virginia Beach, Va. Sept. 12, 13. Advance notice.</i></p>



Gas Electric Steam Generator

Natural gas-fired 210,000-kilowatt steam generator for Louisiana Power & Light Company's Sterlington station.

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Public Utilities

FORTNIGHTLY

VOL. 62, No. 1



JULY 3, 1958

Load Building for Utility Earning Objectives

In bygone years, an electric utility company could generally rely on an increasing volume of sales to improve earnings. But today the electric industry is confronted with a new situation. Efficiency potentials have diminished and possibilities for greater economies have vanished in the wake of inflation.

By FREDERICK W. KIMBALL*

IN any electric utility the major goals of load building are to create additional earnings and to secure the best return on the stockholder's investment. To accomplish these purposes load-building programs should be designed to achieve specific earning objectives. This requires that promotions be planned in terms of the contribution to earnings

secured from each type of customer and load added to the system. It means careful selection of the loads that are most profitable to the particular utility. When management approves a load-building program, the effect the program will have on earnings, investment, and rate of return should be accurately known.

Adoption of an "earnings approach" to load building is particularly important during these days of rising costs and

*Associate, Booz, Allen & Hamilton, management consultants. For additional personal note, see "Pages with the Editors."

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tight money. Companies are finding that merely selling more electricity no longer guarantees an increase in profits and a higher rate of return.

In previous years, a utility could rely on an increasing volume of electric sales to improve earnings. This was true because the total cost per kilowatt-hour for generation, transmission, and distribution generally declined as additional amounts of electricity were sold to customers. Incremental costs for providing additional electricity were below existing average costs. Reflecting this situation, utility rates were designed to produce less revenue as additional kilowatt-hours were sold.

AT today's price levels for new construction the situation is reversed. A company's cost per kilowatt-hour for generation, transmission, and distribution tends to increase as more electricity is sold. Present-day incremental costs are higher than existing average costs. Yet the same rates which produce less revenue as additional kilowatt-hours are sold, remain in effect. Therefore, as a company's load increases, average costs go *up*, average revenue goes *down*. Earnings and rate of return decline.

The "earnings approach" to selective load building shows the utility confronted with this cost-revenue situation which loads are the more profitable to promote. But there are no pat answers. It would be hazardous for one utility to borrow another's program.

The loads a utility should promote depend on the individual company's situation regarding its:

1. Capital structure and financial plans.

2. Power supply and future power program.

3. System load characteristics.

4. Electrical characteristics of the customers, and individual loads that will provide future growth.

5. Rate structures.

6. Anticipated magnitude and pattern of normal growth.

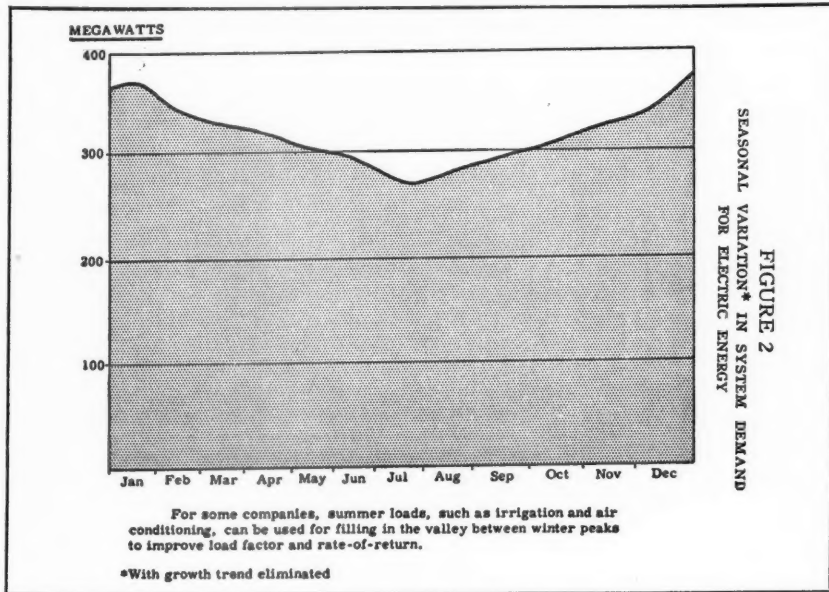
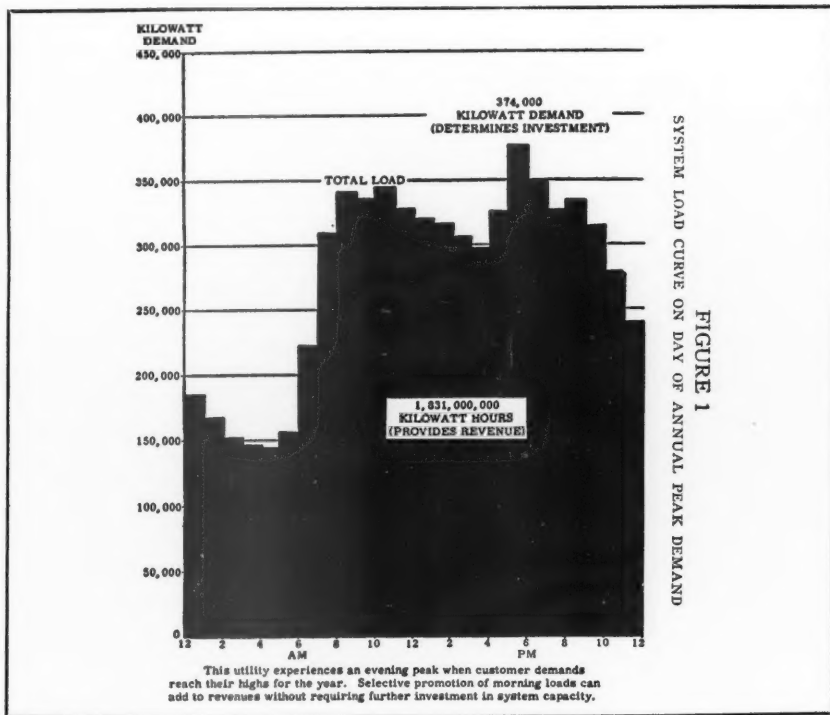
The importance of each factor in the development of a selective load-building program aimed at achieving specific earning objectives is discussed in the following paragraphs.

1. Capital Structure and Financial Plans

PROMOTION of big loads like air conditioning and space heating can provide rapid growth of kilowatt-hour loads. But such promotions can also develop requirements for heavy investment in additional plant. As an example, one utility found that residential all-electric space-heating installations used an average of 14,000 kilowatt-hours annually—over \$160 in revenue per customer. But each new customer added \$1,100 to requirements for new distribution capacity. Promotion of space heating, in this instance, not only built revenue, but also requirements for new investment at an alarming rate.

Sometimes promotion of large loads must be paced to the company's financial program in order to maximize return on the common stock. How much senior money is available? How long must it last? Some loads that are profitable to promote with 4½ per cent money are the wrong ones if they force the company to sell more common stock.

LOAD BUILDING FOR UTILITY EARNING OBJECTIVES



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II. Power Supply and Future Power Program

LOADS that are profitable to promote with steam power can be highly unprofitable with hydro power, and vice versa. Hydro power, characterized by large investment and low operating costs, puts a premium on loads that increase the year-round utilization of generating plant. This requires matching load curves to generating capability curves. Steam power, characterized by relatively low investment and high fuel costs, is more flexible in accommodating some customer loads without financial penalty. Purchased power contracts used by many companies are frequently a mixture of these two extremes.

Actual cases can illustrate the importance of power planning on load building. One utility found that by paying 2.2 mills per kilowatt-hour for power instead of \$19 per kilowatt-year (equivalent to 2.17 mills per kilowatt-hour at full utilization), an annual profit of \$4.37 would be earned on one class of residential customer instead of an annual loss of 92 cents. At the same time, however, a loss of \$25,000 a year would be sustained serving a large industrial user which had previously provided net earnings of \$14,700 a year.

Examples of the impact of power planning can also be found in the area of

residential load building. Differences in the profitability of adding residential appliances and equipment to a utility's system with power obtained at 2.2 mills and at \$19 per kilowatt-year are shown in the table below.

Analyses of a utility's power supply and its long-range power program are major factors in developing a profitable load-building program.

III. System Load Characteristics

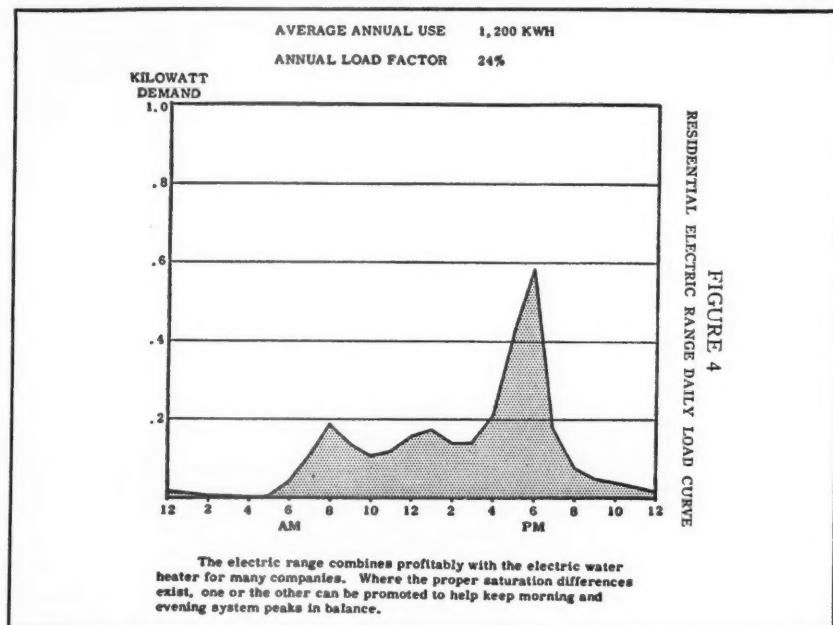
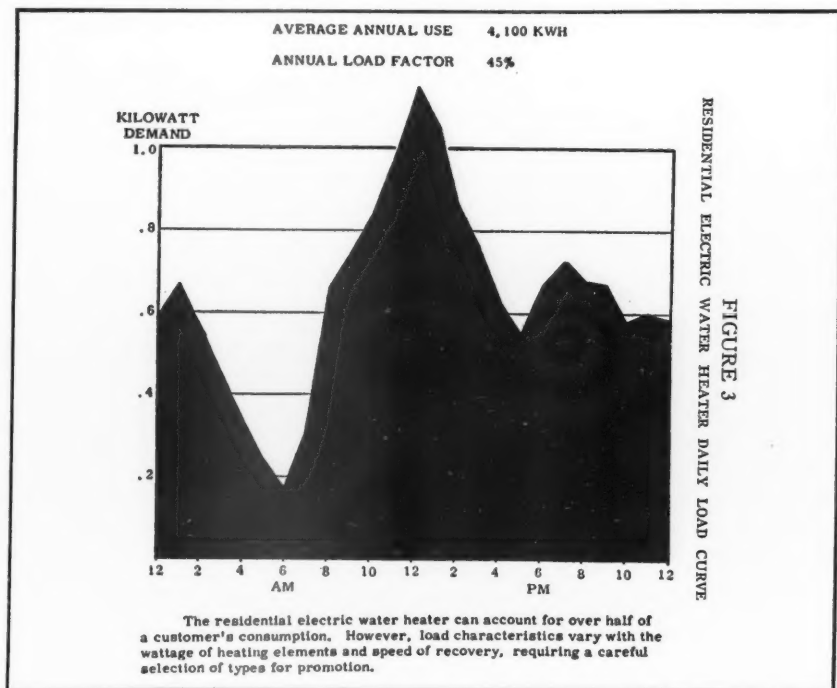
ONE of the objectives in developing a profitable load-building program is to get the most revenue with the least addition to investment. This is important when 40 per cent to 50 per cent of all costs in many utilities are those associated with plant investment—depreciation, ad valorem taxes, interest, and insurance. Electrically, it means adding the most kilowatt-hours with the least addition to system peak demand. Assets which provide distribution, transmission, and generation load-carrying capacity comprise the majority of a utility's total investment. The annual peak demand determines how large that investment must be.

To get the most revenue with the least addition to investment requires a knowledge of the system's load characteristics. Does the system have a summer or a



<i>Appliance</i>	<i>With Power Obtained at 2.2 Mills Per Kilowatt-hour</i>		<i>With Power Obtained at \$19 Per Kilowatt-year</i>	
	<i>Additional Earnings</i>	<i>Rate of Return</i>	<i>Additional Earnings</i>	<i>Rate of Return</i>
Water heater	\$17.00	15.0%	\$14.98	13.6%
Range	5.21	7.4%	.64	3.8%
Refrigerator .....	.48	10.7%	.53	11.4%
Dryer .....	.32	3.8%	(1.11)	1.2%
Dish washer .....	.81	22.0%	1.08	28.3%
All-electric house heating ..	27.47	6.2%	(.60)	3.2%

LOAD BUILDING FOR UTILITY EARNING OBJECTIVES



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winter peak? Does it have an annual morning or evening peak? Load curves, like those shown in Figures 1 and 2 (page 3) provide the answers and show at which times idle capacity exists in the system. This idle capacity provides an opportunity to sell kilowatt-hours without adding to the system peak—if the right loads are selected.

IV. Characteristics of the Customers and Loads That Will Provide Future Growth

THESE are the building materials. Using the company's knowledge of the load characteristics of its customers, appliances, and other equipment, a utility must design its load-building program to balance morning and evening peaks and

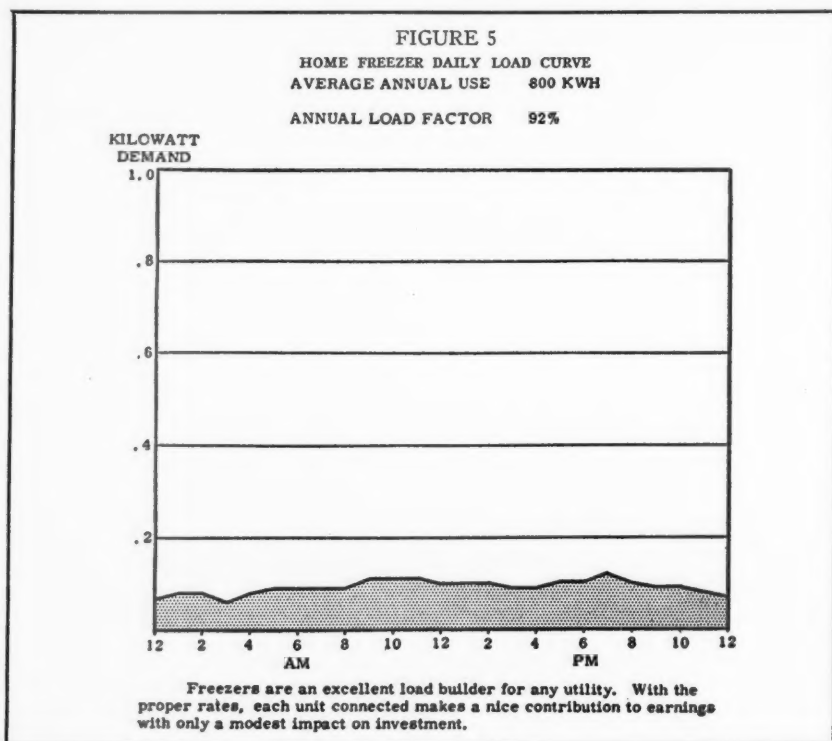
to fill the off-peak valleys on the system load curve.

The goal of such planning is the achievement of a high annual load factor. This is a useful measure of effective plant and investment utilization. It is calculated as the percentage ratio between:

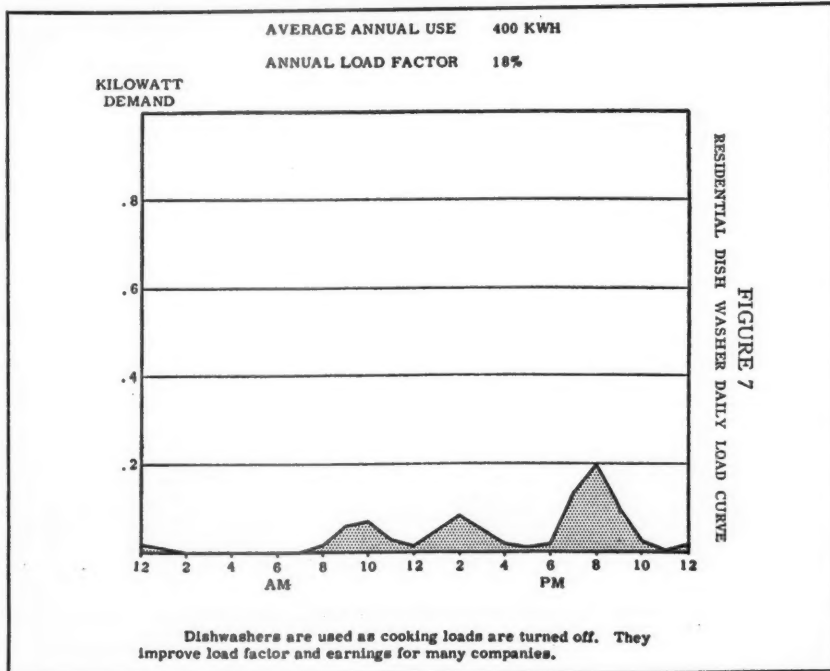
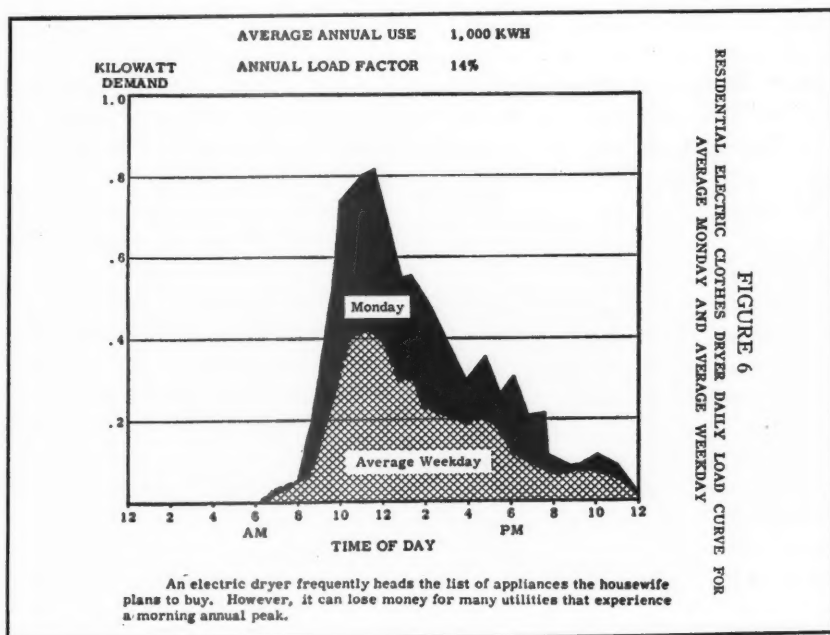
Actual kilowatt-hours sold annually

The maximum possible kilowatt-hours that could have been sold at full system utilization as measured by the annual peak.

THE average load factor for most utilities is around 62 per cent. One company calculates that a single percentage point improvement, such as an increase to 63 per cent, adds over 6.3 cents per share



LOAD BUILDING FOR UTILITY EARNING OBJECTIVES



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to earnings on common stock. Figures 3 through 8 show the load characteristics of a few of the items from which profitable load-building programs can be put together. Improvement of system load factor is a major objective in any profitable load-building program.

V. Rate Structures

RATES frequently need to be redesigned more than they need to be raised. In many cases the average revenue curve declines too steeply as more electricity is sold. This triggers off rate increase proceedings as load growth occurs and average revenue moves farther down on the revenue curve, as is shown by Figure 9 (page 9).

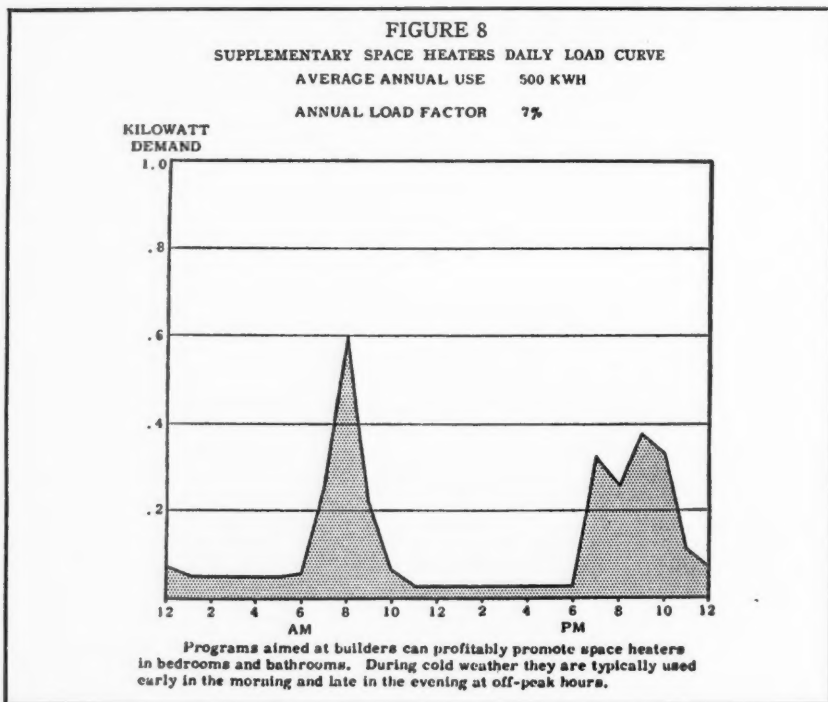
In some cases the profitability of load

building can be multiplied several times by redesigning rates so that average revenue declines less steeply as more kilowatt-hours are sold. Figure 10 (page 9) shows one way of doing this without increasing revenue or earnings.

Where a multiplicity of rates are in force, analysis usually shows that promotion of certain optional rates is desirable. Load building can then be profitably selective with respect to *rates* in addition to *load characteristics*. And these two factors primarily determine the earnings and investment impact of all loads.

VI. The Magnitude and Pattern of Normal Load Growth

MOST load growth occurs because of population increase and because ris-



LOAD BUILDING FOR UTILITY EARNING OBJECTIVES

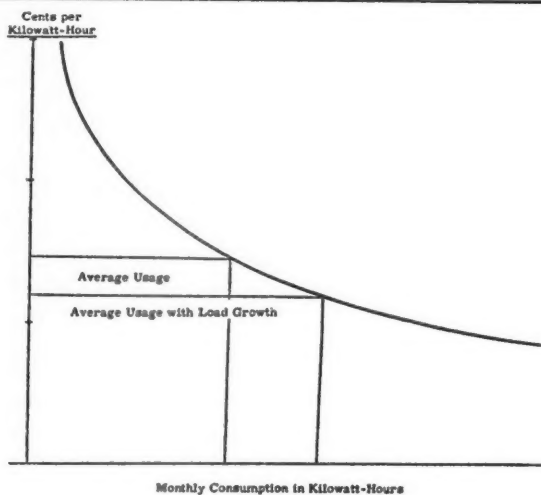


FIGURE 9
TYPICAL RATE—EFFECT OF CONSUMPTION ON AVERAGE
REVENUE PER KILOWATT-HOUR

For many companies average revenue per kilowatt-hour now declines too fast with load growth, accentuating the earnings squeeze caused by rising costs.

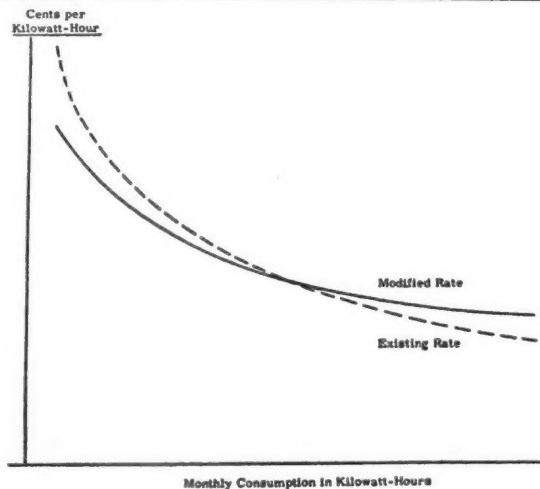


FIGURE 10
EFFECT OF RATE MODIFICATION ON AVERAGE
REVENUE PER KILOWATT-HOUR

A redesigning of rates to make future growth more profitable can increase tomorrow's revenue and earnings.

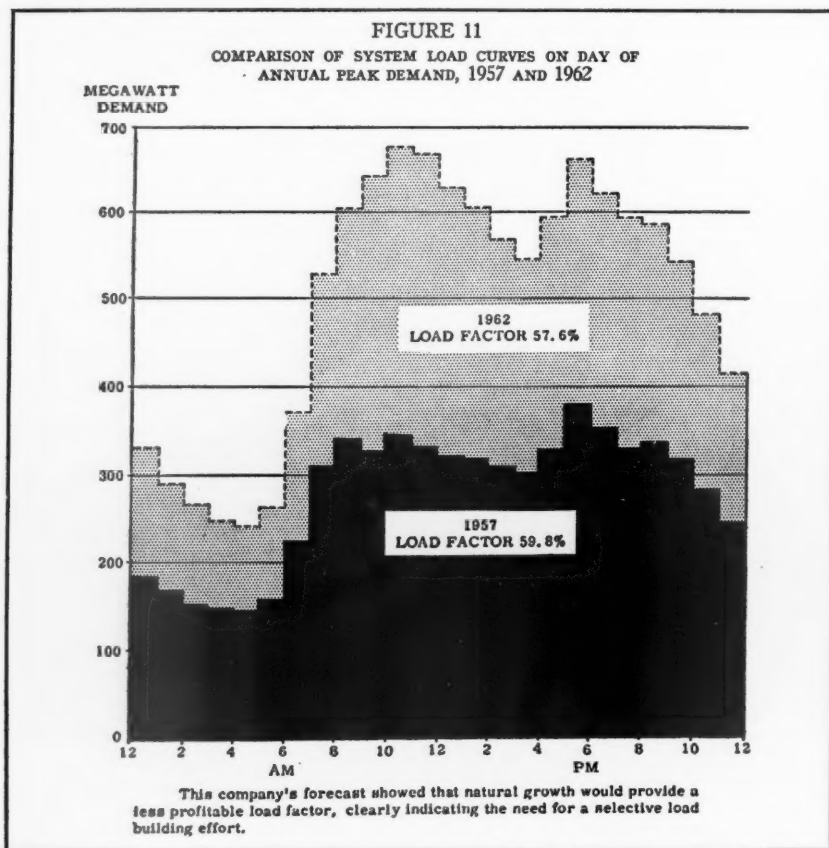
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ing income levels permit people to buy appliances and support commercial activities in the area. For most utilities, 85 per cent-95 per cent of load growth will occur without any promotional effort except for maintaining good service, reasonable rates, and meeting a little competition from other fuels. Indiscriminate spending in an attempt to increase overall sales of electricity is usually wasteful from an earnings standpoint. A utility should strive to make its normal growth more profitable, rather than try to increase its overall level of sales.

To direct its efforts towards improving

the profitability of its growth, a company must first know to what extent its natural growth is already the best from the standpoint of earnings and investment. If the most profitable pattern of growth will occur naturally, no selective effort is required of the sales organization. If an unfavorable growth pattern is in prospect, a maximum selective effort must be made. An example of anticipated growth pattern is shown in Figure 11.

IN addition to its pattern of growth a utility must know at what rate its loads will grow. In order to project this growth



LOAD BUILDING FOR UTILITY EARNING OBJECTIVES

in terms of earnings and investment, forecasts must be prepared for both customer-number increase and customer-usage increase.

COSTS and investment are incurred basically, first to provide the customer with service, and second to carry his electric load. Customers, kilowatts, and kilowatt-hours are the basic ingredients of forecasts to guide selective load-building efforts. Mixing these ingredients frequently requires that a company overhaul and sharpen its forecasting techniques to secure satisfactory results.

MEASUREMENT of the foregoing factors using the common denominators of earnings and investment can provide a utility with a well-charted course to higher dividends and an improved rate of return. The "earnings approach" to load building can help each company select the loads that are the most profitable for it to promote despite individual differences in operating conditions. When management puts its stamp of approval on this type of load-building program it can do so with precise knowledge of the earnings objectives the program is designed to achieve.



Where the Electric Bill Really Adds Up

"THE cost of electricity is a very small item in the budgets of most families and most businesses—about one per cent in either case. But there are a few industries in which power costs are important. The light metals industry is the prime example.

"This fact has been enthusiastically seized upon by socialized power advocates as an argument for more tax-subsidized, tax-free public power plants and systems. In the Pacific Northwest, for instance, it has long been claimed that 'cheap power' is the one and only attraction that will bring aluminum plants to the region.

"Here, apparently, is a case where the bubble has burst. An official of the nation's largest aluminum company has listed the cost factors which are uppermost in locating new plants. They are labor and transportation—not power.

"A leading Oregon newspaper, the Eugene REGISTER GUARD, observes: 'This may come as a shock to public power zealots and to some politicians but apparently cheap power in the Northwest is no longer a magic wand to lure aluminum plants.' What is true of the Northwest is true of other regions—and what is true of aluminum is true of other industries.

"Furthermore, socialized power pays no taxes, and, as a rule, consumes taxes. Therefore, it increases the tax burden borne by all individuals and enterprises everywhere. And, in these days, the tax factor is a mighty potent one in deciding what business and industry do or do not do."

—EXCERPT from *Industrial News Review*.



Good Press Relations Techniques

The achievement of good press relations is more than a matter of mere technique. It is a matter of careful and constant cultivation, with a lot of give-and-take and mutual building of confidence between the working press and the utility company press department.

By ROBERT HARSHA DAVIDSON*

PUBLIC utilities, as well as other large industries and businesses, are realizing more and more how necessary it is to keep the public clearly informed on their operations.

Almost all such organizations now have well-staffed public relations offices, as well as press representatives, including television and radio.

Advertising departments have long been an integral part of all large business and industrial organizations. And it has not been too many years ago that the bulk of

all information to the public was disseminated through this medium. However, advertising, propaganda (in its benign concept), and public relations (including press relations) have now become an interlocking triumvirate in spreading the good word to the public.

Basically, in their separate forms, advertising sells items, propaganda sells ideas, and public relations sells ideals. Depending on the nature of the business or industry involved, it is the proper blending of these ingredients that produces the best results public informationwise.

Most people will agree that tremendous strides forward have been made in the

*For personal note, see "Pages with the Editors." The views expressed are those of the author and are not related to any former business association.

GOOD PRESS RELATIONS TECHNIQUES

field of advertising, even though many of us gag at some of the television and radio commercials. Excellent propaganda is also being produced by many of the larger industrial and business outfits in the form of booklets, demonstrations, industrial movies, and the like.

Nevertheless, it is in the field of public relations that many of our utilities are still floundering. And this becomes especially apparent in the handling of press relations.

IT is my purpose to dwell at some length on the philosophy and mechanics that produce either good or bad press relations.

In the first place, out of the flood of handouts that come to the city editor's desk on any metropolitan newspaper less than 10 per cent ever get into print. This is true even though every handout is carefully read in the hope of finding some newsworthy item, or, the germ of one. Even worth-while items are not sure of publication. Even after they pass the copy desk, where they are rewritten to fit the newspaper's style and usually suffer some deletion, they must still get by the make-up editor, whose main interest is often not in content but in size. "Must go" items are given preference, but it is his job to use the items that best fit into an open page. Also, he may use a given item in one edition and remove it in the next edition to make room for some more important news development. It is the job of a good press relations man to see to it that material he hands to the city editor is worthy of the "must go" stamp. How can this best be accomplished?

THE first order of business for a good press relations man is to get clearly fixed in his mind what really constitutes

news. A news editor friend of mine on a great metropolitan daily expressed it very succinctly, I believe, when he said "news is information that's new, important, and interesting, publication of which serves the public rather than any selfish interest, be it commercial, political, or any other." He also recalled the old classic "If a dog bites a man, that's not news, but if a man bites a dog, that's news." But, he asserted, if he went out and bit a dog and on the same day a dog bit the President, he had no doubt which incident would get the play in the newspapers.

What, then, does this unwanted material consist of in the handouts that flood a city editor's desk?

Sometimes this material is cleverly expressed advertising that should rightly belong in the advertising columns as paid advertising. Sometimes it is merely a brag sheet about the company or its officers. Sometimes it is items that are presented with the not-too-subtle implication that they should be published because the company is a large advertiser in the paper. This technique sends the handout to the wastebasket fast! More often it is a case of items that simply do not contain any real value.

Rarely, but it does happen, although material is really newsworthy, the faulty judgment of the city editor or one of his assistants consigns the handout to the wastebasket. Newspapermen are prone to err occasionally, even as you and I.

ONCE a press relations man clearly understands what is news and what is not news, he can begin to evaluate his own material much as a city editor would. And when he is able to present copy which a city editor will reach for, rather than

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stuff he has to push at him, he has really become valuable not only to his company, but to the press as well.

Getting favorable news stories into the newspapers is one thing, but trying to keep unfavorable stories out is quite another matter. A press relations man is bound to lose the esteem of editors by trying to keep out of the papers things that belong there, but which may be unfavorable to his company.

Suppose there is a breakdown of a part of the equipment of a utility which adversely affects a large segment of the users of its service. If it has news value, and it very probably has, it should most certainly not be hushed up.

There are two courses open to the press relations man. One is to help the reporters assigned to the story get what they want, along with all the information that can be given to mitigate the happening. He can point out all the safeguards the company has initiated to prevent such accidents. He can emphasize the modern equipment used to locate the trouble. He can call attention to the speed with which the trouble was repaired. If he is smart he can often get some really good publicity into the story.

The other course is to try to prevent reporters from getting what they want, which most likely will result only in the company and the press relations man losing the confidence of the press.

THERE are times, however, when it is ethical to make every possible effort to keep a story from being published.

Let us suppose that a city editor has on his desk a story from some source, the contents of which are unfavorable to a company. Normally, and always if the company's press relations are good, the city editor will call the press relations man to get the company's viewpoint. If the story is completely false, and it can be so proven, the editor will be just as anxious as the company to kill it. If the story is along the border line between truth and fiction, or if it is true but written in the most unfavorable light, the editor will be glad to include the company's point of view on the matter in whatever is actually printed in the paper.

Asking an editor to play down a story is another bad practice sometimes indulged in by press relations men. It has the bad effect of trying to tell the editor



Q "PUBLIC utilities, as well as other large industries and businesses, are realizing more and more how necessary it is to keep the public clearly informed on their operations. Almost all such organizations now have well-staffed public relations offices, as well as press representatives, including television and radio. Advertising departments have long been an integral part of all large business and industrial organizations. And it has not been too many years ago that the bulk of all information to the public was disseminated through this medium. However, advertising, propaganda . . . and public relations . . . have now become an interlocking triumvirate in spreading the good word to the public."

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how to run his paper and may result in a played up story rather than a played down one. There is also the fellow who tries to get a story killed by using the personal approach. "Look, old man," he pleads, "do this for me personally. I'm really on the spot with the top management." What he is really asking is for the newspaperman to destroy his own prestige to raise that of the press relations man. In this regard, it is a fact that some newspapers have a standing rule that the paper must publish any story where pressure has been brought to bear to keep it out.

WE should not fail to mention here the "uninformed" press relations man. He can certainly bring adverse press relations to his company. He is the type "that just doesn't know a thing" when news unfavorable to his organization is breaking. He may stall around or maybe say "I'll have to look into this and call you back," knowing full well that he is not going to call back. This is the type of thing a newspaper never forgets.

All in all, the basic fault contributing to poor press relations is a lack of understanding of the newspaper's point of view. Getting out a big, daily newspaper is a terrifically complicated job and is a daily challenge to all the resources of knowledge and experience of the men and women responsible for it.

Watching the seeming bedlam in a big city room of a newspaper an hour before press time, anyone not familiar with its operation may well wonder how in the world the paper is ever going to get to press. To the initiated, however, what may look like utter confusion is in reality a smooth running and well-organized set-up. There is pressure, of course, but the

men running the show know their job well and have everything under control. When press time arrives the presses will roll out another edition of the paper right on schedule.

IT is imperative that a good press relations man learn as much about the operations of a city room as he possibly can. He should familiarize himself with the duties of the managing editor, the news editor, the city editor, the financial editor, the copy desk, and particularly the reporters who are usually assigned to cover stories relating to his particular field. He should also learn the best times to see these people, when the pressure is off and they can spare the time to discuss any matters with him. Incidentally, he will usually find that they are glad to talk with him, whether he has a news story or not. These people are just as anxious to become better informed about the press relations man's business as he is to learn about theirs.

By and large, most newspapers steer a middle course in displaying the news, no matter what their editorial policy may be. It is on this basis that a press relations man should develop his press releases. They should really be news stories, and the news value should always be the first consideration in preparing them. Incidentally, it is foolish to try to throw up dust in a story in order to conceal a fact. If this is attempted, that fact will probably appear right up in the lead of the story.

THERE is another important factor in the presentation of news releases and feature stories to the city editors. In cities having both morning and afternoon



Tipping off the Commissioners

"In checking with legal men who are not connected with any public utility, the consensus is that it is perfectly proper to apprise members of a public service commission that a rate hearing is being considered, before the official application is filed. I might add that there have been instances, due to improper press relations, where the commissioners' first notice that a rate increase was to be applied for was when they read it in the press. Such a situation should never be allowed to occur. And yet, we know of cases where shoddy treatment of this sort has been vehemently resented by commissioners."

papers, there is always the question of when to release a story. If it is released to the afternoon papers, then the morning papers are faced with publishing a story that has already appeared the previous day. If released to morning papers, then the afternoon papers have to take second place. Of course, this thing happens every day on big stories. However, in such cases, the paper that has to print second on a story usually is in a position to give additional facts or supplemental information about facts already mentioned.

Of course, too, there are times when news releases have to go at once, irrespective of whether they hit the morning or afternoon papers. But, as a general rule,

most papers go along with the practice of rotating the timing. If the afternoon papers get a release on a given day, then the next time the release should go to the morning papers. It is a good rule to follow this same practice in giving out feature stories. Newspapers appreciate this sort of consideration.

WHAT really are the attributes necessary for a sound press relations man to have? First, he must have the newspaper point of view to such an extent that he actually becomes a *news source*. He must be a man the newspapers ask to comment on any news in his field, confident that he will supply all the essential facts,

GOOD PRESS RELATIONS TECHNIQUES

without the need of further checking by the paper.

THIS business of establishing oneself as a reliable news source is just about the most important job of a press relations man. It is not accomplished by a back-slapping, hail-fellow-well-met, how-about-lunch-with-me-Joe, attitude. This desirable relationship is slowly built on honesty and confidence and eagerness to be of service, without trying to buy your way.

There are many ways in which a solid press relations man can be of service to newspapers, besides giving them newsworthy releases. He can suggest feature stories, and go all out in making material available for them. Very often, too, he may stumble on to a good news item which has nothing to do with his business and which he can pass on to his newspaper friends. Such stories are always appreciated. Very often he can be of real service when a newspaperman has a personal problem which may have to do with the press relations man's business. He can so establish himself that the minute anything develops in a newspaper office, or in connection with a newspaperman personally, that has to do in any way with his job, it becomes second nature for the press to call upon him. A high point is reached when he has so established himself that he has become "Mr. Gas Company," "Mr. Telephone Company," or "Mr. Whatever Public or Private Industry" is in the minds of the newspapermen he deals with.

ANOTHER important attribute of a sound press relations man is the cultivation of a friendly association with newspapermen. He should be able to talk with editors and other press contacts as he would

to any other friend. They are human beings, too, remember. They have their likes and dislikes and their hobbies. They have homes and usually a family. He will find them interested in about the same things he is interested in. He should get on to their idiosyncrasies and deal with them on their own terms. If they begin to call him by his first name or nickname, he may do likewise—but not before they have initiated this familiarity. All this cannot be done in a day or a week or a month. Sometimes it is a pretty slow process, taken step by step, but when this relationship and a reputation as a reliable news source have been established, the press relations man has really arrived.

It goes almost without saying that a press relations man should not be merely a peddler of handouts—a sort of messenger boy between the company and the press. The man for this job should be carefully selected. Some companies prefer a man who has had previous newspaper experience. Others would rather have a man in this job whose years of service have trained him well in the operations of his company. But, whichever he is, he should have earned the full confidence of the officials of his company. He should be kept informed on all company matters which might have the slightest news value and be prepared to express the company's point of view without having to go through a long line of organization in order to get what often amounts to a vacillating or watered-down statement, finally agreed on by men who have little understanding of the newspaper point of view.

WHEN a newspaper makes an inquiry, usually time is of the essence. It may

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be on a matter that is in controversy when a forthright and speedy answer may offset a statement made by the opposition. Or it may be only a matter of meeting the paper's deadline. In either case, if the press relations man knows the answer (and in most instances he should) he should be allowed to give it out at once. And, if he does not know the answer, he should be permitted to go directly to the company official who does, and then communicate the information immediately to the paper.

Too often the messenger-type press relations man is so hamstrung by company protocol that he can hardly give his company's street address without checking with some assistant to an assistant vice president, who must check with the assistant vice president, who checks his vice president, who then calls a meeting of all the other vice presidents, who finally agree to send down (through channels) the information that it is OK to give out the street name and block number but do not give the actual number of the building. Exaggerated? Well, yes, of course. But those who have taken the trouble to read this far know exactly what I mean.

THERE is another very important factor in press relations which may or

may not involve a press relations man except superficially. This is the relationship between the top management of a company and the top men on a newspaper, such as the editor-in-chief or the publisher or the business manager. By personal periodic visits to the papers' executives, the higher management of a company is offered the opportunity to explain in detail the company position on matters that may be pending or just company policies in general.

THE top men on a newspaper are always glad to welcome company officials whose object is to provide a better understanding of the company's problems. Certainly, for instance, when a utility plans to apply for a rate increase, this procedure should be followed as soon after the public service commission has been informed in confidence that such a plan is in the offing. Neither one will violate the confidence and both will appreciate the advance information.

And when the time comes for the news stories to break, the background already in the hands of newspaper executives will prove of great assistance in evaluating developments. It may even, if the company's case is strong enough, result in favorable editorials.



Q "... a sound public relations man is one who has learned the lesson of evaluating news. He must have become a reliable news source. He must have acquired the newspaper point of view, as well as that of his own company. He must have earned the full confidence of the press, as well as that of his company officials, and be available and prepared to comment at any hour of the day or night. And, finally, his contacts with the press should be not merely contacts, but friendships."

GOOD PRESS RELATIONS TECHNIQUES

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IN hearings before commissions a good press relations man can prove of great assistance to the men of the press who are covering the proceedings. Much of the testimony will undoubtedly be of a highly technical nature, presented by experts in the fields of finance and economics, as well as testimony concerning the physical structure of a company's plant. In practically all cases this direct testimony has been previously prepared and copies are available. Such a copy of a witness's testimony should be made available to the reporters present as soon as the witness takes the stand.

The press relations man should also supply the reporters with a prepared summary of such testimony. This gives the reporters a chance to digest the salient points of the testimony in time to meet their deadlines, as well as the opportunity of having the complete testimony at hand to study when time permits. He should

also see to it that company officials and legal staff are available at the close of the day's hearing for questioning by the newsmen.

OFTENTIMES, too, in hearings before commissions in Washington, reporters assigned to cover commission hearings have more than one hearing to report on in the course of the day. A good press relations man who has won the confidence of the press can be of great service by agreeing to give such reporters who cannot remain throughout a hearing a fill-in on what has transpired. In such a case, his fill-in should be purely objective and should contain all the important facts developed, whether they are favorable or unfavorable to his company.

In summary, a sound public relations man is one who has learned the lesson of evaluating news. He must have become a reliable news source. He must have acquired the newspaper point of view, as well as that of his own company. He must have earned the full confidence of the press, as well as that of his company officials, and be available and prepared to comment at any hour of the day or night. And, finally, his contacts with the press should be not merely contacts, but friendships.

Throughout a long career, in which my main duties were concerned with the press relations of a large public utility, I have come to know a great many highly intelligent and often brilliant men and women, many of whom have become my lifelong friends. Truly, it has been a most rewarding experience.

Area Planning for Low-cost Power

A persuasive story about the need for pooling electric utility facilities under joint system operations. This is a question which is becoming more and more important to many companies. Indeed, the comparative performance of some companies in the years ahead may depend largely on what arrangements they can make now for sharing with others, or otherwise developing large-scale system operations.

By EDWARD A. FONTAINE*

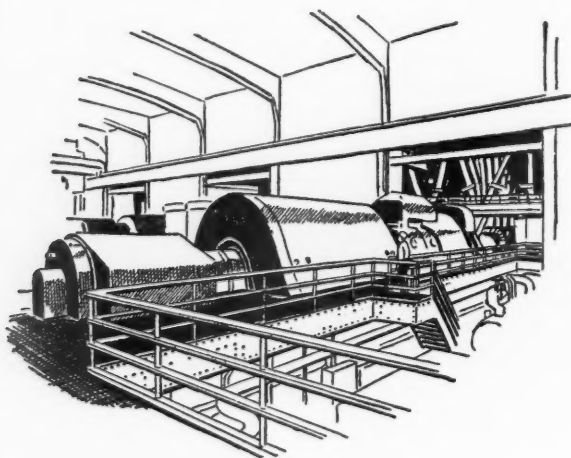
SECOND in importance to efficient management for keeping our electric utilities strong and vigorous is our ability to generate electricity at low cost.

The history of the industry is a record of uninterrupted progress in supplying the nation with economical and reliable power. Much deserved attention has been given to the steady improvement in thermal efficiency at our power plants, to the reduction in system losses through the use of higher transmission and distribution volt-

ages, and design improvements of transformers and substation equipment. These and many other technological advances have been accomplished by the joint effort of the industry's engineers and the engineers of equipment manufacturers.

OF importance, too, in reduction of power costs has been the pooling of production and transmission facilities under joint system operations. The record of the larger utilities in sharing generating and transmitting facilities for a common good has been noteworthy. But more can and must be done along these lines by all

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utilities if we are to maintain and improve the industry's position.

It has become almost axiomatic in the American business world that "bigness," which permits mass production, mass selling, and specialization, produces the lowest possible production cost. And, while in the electric industry, generating efficiency depends not so much on "size of company" as on "size of machine," it is true that generally only the larger companies can justify or finance the large, efficient power plants which make possible low unit costs. This, of course, poses the problem of the so-called small electric utility which has neither the credit nor the potential size to justify the most efficient machines. This is a strong argument for intercompany co-operation. For co-operation between neighboring companies can provide to most utility systems, regardless of size, the benefits obtained from more efficient generation.

The problem of interconnecting contiguous systems of relatively large electric utilities has not been difficult to resolve in most instances. When two large systems are considered for joint operation, mutual benefits usually can be determined and economic feasibility established beyond question.

However, where a disparity in size exists between utility systems, particularly with respect to loads and available sources of power supply, related economic factors are more difficult to evaluate. For example, if a joint operation were considered between a utility system having a system demand in the order of 1 million kilowatts and a smaller system with a peak load of, say, 100,000 kilowatts, the immediate question to be re-

solved is: "What can the little guy do for the big fellow?"

SUCH has been the plight of our smaller utilities to date. On the surface they have had so much less to give than to gain that even a start toward a joint-operation scheme is often neglected. However, the mere fact that a utility is small should not exclude it from joint power operations. While the small company has the most to gain initially through pooled operations, these benefits may be shared in a manner to attract the favorable attention of the largest utilities and prove equitable to all over the long run.

Co-ordinated operations among utility systems, whether large or small, can lead to tangible cost reductions as a result of many factors. These factors include the following:

1. Larger units can be justified for interconnected systems that pool generator reserves. These units tend to reduce both investment costs and operating expenses.
2. The likelihood of coinciding emergency periods is reduced which allows for a reduction in generator reserve requirements.
3. Variations in seasonal load characteristics can permit a more flexible maintenance schedule.
4. Diversity between peak load periods can reduce the amount of capacity required to serve and reserve an interconnected system.
5. Excess reserves can be eliminated or reduced by the installation of generator additions on a staggered basis while minor power deficiencies are purchased from other pool members.

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6. Economic dispatch to obtain maximum use of the most efficient machines can provide substantial fuel savings.

7. Improved service reliability can result from interconnected operations.

8. Co-ordinated planning can create the establishment of a generating company with attractive financial and operating benefits.

THESE are the objectives which may be realized by the concerted action of two or more utility companies. To reach these objectives requires careful system planning on an area-wide basis. And the area included in such a plan should be small enough to allow intelligent analysis but sufficiently extensive to permit the installation of the most economical combination of production and transmission facilities. The arrangement may be referred to as an area plan, or an agreement among the utilities serving an area to assure that the technological, natural, and human resources of each will be developed and utilized for the benefit of the entire region. These objectives can be secured through agreements ranging from purchased-power commitments and power pools to the organization of generating companies.

The formulation of joint-use agreements, except as noted previously, comprises one of the most difficult endeavors of utility operation. Effective agreements may involve intricate financial arrangements, complex accounting problems, and engineering studies of the highest order. Complicating the negotiations is the quite natural inclination of the parties involved to bring to the conference table the procedures and preferences derived from the distinctive local operations of each. The success or failure of these deliberations will in large measure hinge on personalities and the capacity for resolving differences in viewpoint. So, in the final analysis there may be nothing more formidable than human nature standing in the path of agreement.

TO discover in more detail the benefits that may be derived from joint operation of generating facilities in an area, a careful study must be made of the investment and operating costs of service related to an area plan. In many cases these studies have shown that such an operation, as contrasted to a single company plan, will result in four principal advantages.

First, with an area design, larger, more



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efficient machines become practical. These units will have lower heat rates, lower maintenance costs, and reduced investment per unit of output.

Second, plant sites may be chosen to offer maximum economies with respect to fuel supply, cooling water, proximity to major loads, and accessibility to transmission facilities. In one area this could mean plant locations near major coal deposits. Another area may be best served by river sites, offering adequate cooling water and barge transport of fuel.

The full development of hydroelectric sites offers an example of territorial benefits. Area planning can allow the wheeling to distant load centers of hydro energy that might be surplus to the generating system. The tie-in of large steam-dominated systems to predominantly hydro companies enables more complete use of both, and can open the door to possibilities beyond the realm of the single company.

THE third major advantage of an area plan is the reduction that can be made in reserve requirements. Investment and operating costs dedicated to relaying the largest installed generating units may be spread among several companies. Studies of possible power pool arrangements will reveal that participating companies can supply their loads on a firm basis with much less generating capacity than would otherwise be required. Besides lowering installed capacity, the area plan will also permit the reduction of spinning reserves with a consequent saving in operating expenses.

The fourth advantage that may be realized from an area plan is the savings in transmission investment and the reduction of losses. As the load in an area ex-

pands, higher transmission voltages and larger conductors permit the transmission of power at substantially reduced unit costs. Normally the increased cost of high voltage transmission is more than offset by increased capability. This, of course, depends on loads being sufficient to utilize full transmission capability.

The advantages of larger generators, location of facilities, lower reserves, and more economical transmission should be considered in the context of their aggregate value, since the operating advantages for each of these aspects of a power supply are interrelated. System reserves and transmission requirements, for example, are closely tied to generator size and location.

WE should not assume that an area will profit from new joint undertakings until a comprehensive study has singled out and analyzed the benefits. Therefore, a first approach to joint power operations should be an area study to determine whether or not such a venture would be in the public interest. These studies typically require load analysis, site examination, station cost development, studies of proposed and existing power networks, and an overall cost analysis.

Management will, of course, make the decision as to economic feasibility on the basis of studies made by policy groups, technical committees, and consultants.

The commitments must then be formulated that will finally secure to every participating company an equitable share of the potential area benefits. At this point a certain degree of forbearance by all participants is desirable. There may be some inequities at the outset but, over the long term, benefits should reach a balance and



Determining Special Area Needs

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these benefits over a reasonable period should be the true criterion. The great advancements of the past have been won by a spirit of co-operation in which each participant was willing to compromise for the general good. The proven area plans have had their growing pains, and ultimate success has been the result of intensive managerial backing and broad-gauge thinking.

METHODS by which potential benefits may be secured under joint operations are many and varied. The most common joint-use contracts and agreements

fall into three familiar categories. The simplest arrangements require participating companies to enter into purchased-power agreements and transmission arrangements. While not strictly a “joint-use” approach, these contracts can permit a full and logical development of an area plan. Such agreements have permitted the participating companies to install larger, more efficient machines and more economical transmission systems than could otherwise be justified. The resultant savings have proven attractive in many instances to purchaser and supplier alike.

Some utilities are reluctant to depend

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on another company's power supply. A contract may not become renewable, for example, and having once fallen behind in supplying its own requirements, the purchasing company may then find the installation of its own generating facilities difficult to accomplish. From the supplying company standpoint it may have reservations concerning the sale of large blocks of power for resale purposes since such sales are often in an indefinite category with regard to quantities and periods of time and can be a serious hindrance to orderly system development. In these circumstances, long-term contracts are a partial solution, although such commitments could become inequitable with changing economic and technological conditions. Purchased-power contracts, however, will continue to serve a sound and essential purpose in utility operations for many years to come.

ALTERNATE methods for the establishment of area plans are increasing as systems become larger.

A second approach involves the area power pool, which is a joint undertaking requiring each participant to provide its own generation and transmission requirements, with facilities planned and operated according to area needs. To a considerable extent these plans are built around the modern technical concept of economic utilization of generating facilities. In general, this concept requires that each incremental increase in generation be carried by that turbine generator that can supply the increase at the lowest possible incremental cost, giving effect to such factors as fuel cost differentials, transmission losses, and thermal efficiencies.

Certain basic principles emerge in joint-

use operations. Billing is often on an excess capacity or deficiency basis with costs segregated into fixed and variable categories. Fixed charges are geared primarily to investment costs in generation and transmission facilities, but these fixed costs may also include a portion of plant maintenance expenditures and the cost of standby operation. Variable costs include fuel expense, transmission losses, and other appropriate operational and maintenance items.

IF billing were on a strict cost-of-service basis, there might be little incentive to install efficient generation. Therefore, in addition to the actual cost of service, other considerations may have to be present in the form of premium payments to the seller which would, however, result in a favorable cost level to the buyer. These premium payments over and above the cost of service would permit the sharing of area benefits and encourage the installation of more efficient generating plants.

There is a wide range in the size and scope of present power pools. In many instances, these pools started with relatively informal arrangements, which later were superseded by more comprehensive contractual commitments. Weak transmission ties for emergency use were gradually supplemented by stronger ties for economy interchange and finally the ultimate was achieved in which transmitting and generating facilities were planned and constructed without regard to the territorial limits of individual companies.

The power pool offers an ideal solution to many area problems, but this plan also has some limitations. An area plan may call for larger units than one of its participants can finance without adequate

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pool commitments as proof of economic feasibility. It may also be desirable for one utility to construct transmitting and generating facilities in another company's operating territory.

IN meeting these and other problems, a third approach to the area plan has been highly successful. It is the jointly owned generating company.

The generating company has become an important development in the utility industry. Certainly the pioneer operations have been highly successful and are now being studied throughout the nation. Although generating companies may serve a single load, probably the main interest in this type of company centers on an operation by several utilities to serve an area more efficiently. Generally, such an operation can benefit the parties involved by reducing power costs.

A characteristic that has distinguished many generating companies is a debt ratio substantially higher than that of either or any of the parent companies.

A proper return on the equity investment may pose a problem, particularly if the parent companies are subject to separate regulation. The return may be fixed or the company may be operated on a non-profit basis.

It can readily be seen that the generating company can have owner participants of any size or of any combination of sizes. By such a corporate development the small utility can enjoy full participation in an area plan on a sound financial basis. The essential commitments would almost inevitably be on a long-term basis and backed by the full financial integrity of the sponsoring companies. Unlike purchased-power agreements, the principals can be assured that the generating company will contribute to an orderly system development.

A GENERATING company arrangement with a smaller company, however, may offer less inducement to the larger utility. However, a spirit of co-operation must exist among all utilities operating in an area, regardless of size, in order that the public interest may be served and benefits may be realized. Pioneering and development along these lines may eventually rank with our greatest technological achievements in continuing our long record of bringing to the public reliable power at low cost and in helping to maintain the level of earnings required to keep up our vitality as an industry. A recent example of co-operative endeavor in the field of power production has been the



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organization of the many research groups in this country to foster the development of nuclear energy generation. From the knowledge gained by these research activities will evolve an additional source of power supply which holds much promise for the future.

THESE are the proven methods for providing through area plans the transmission grids and production facilities required to assure maximum industry efficiency in the years ahead. Purchased-power contracts, power pools, and generating companies each have advantages in intercompany power arrangements. Only a searching examination of the particular case will indicate the most appropriate course to follow. With these tools, the future power facilities of any area can be

planned and operated to maximum advantage. Further, the quality and diversity of managerial and engineering talent which are normally required in a joint-development program assure successful operations.

UNITS of 500,000-kilowatt capacity are already on order, and we can foresee even larger units in the future. With an anticipated winter peak in 1970 of 295 million kilowatts, compared with 107 million kilowatts in 1957, we have no doubt that even greater co-operation within the industry will be required.

But the keystone is the area plan in which facilities are planned, constructed, and operated for maximum benefit to all—large and small utility, alike—and to the consuming public.

Our Duties to Our Economic System

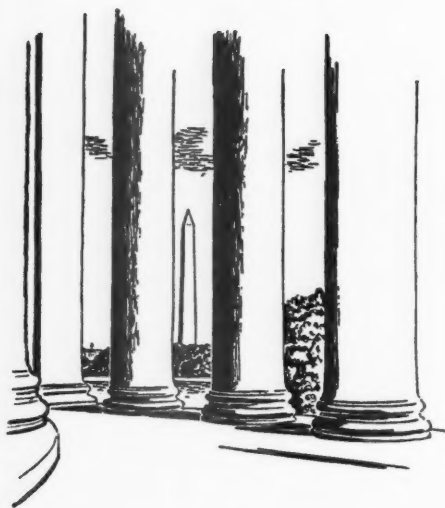
"ONE is to distinguish clearly—as we have not been doing for too many years—between what is properly a government activity and what is not. Defense plainly is, but defense must not be allowed to become an excuse for federal intervention elsewhere. Regardless of the need for scientists, for example, education is not and must not be a federal creature, if we are to maintain a free society. The educational reform that is necessary will be effective only if it is done by the communities and the states.

"The growing burden of defense further means that we must at last remove the federal government from those fields where it does not belong. The manifold subsidies to farmers, healthy veterans, and some industries must be exorcised from federal budgeting—no longer now merely as an 'economical' and anti-inflationary move but in the interest of our continued freedom. We must nurture a keen skepticism about all government activities that do not directly flow from the government's constitutional responsibilities.

"The shape of the future is not foreordained. It is not necessary to assume the visage of the enemy in order to outdo him.

"What is necessary is to understand that our survival as a free society depends not only on how we meet the Soviet challenge but on how we meet the American challenge."

—EDITORIAL STATEMENT,
The Wall Street Journal.



Washington and the Utilities

Exit Mr. Strauss

THE decision of Admiral Lewis Strauss to retire from the Atomic Energy Commission will prove to be of some value to the administration, if it results, as is hoped, in better relations between the administration and the congressional Joint Committee on Atomic Energy. Although there is likely to be little change in administration policy on atomic energy development, or in the opposition of some Democrats to those policies, the departure of Strauss removes from the scene a controversial figure whose personality was almost as great an issue as his policies.

Strauss hit the nail on the head when he told the President that his decision to resign as AEC chairman was dictated by "circumstances beyond the control of either of us." Those circumstances included a deep resentment held by many members of the Joint Committee over what they believed were Strauss' domination of the commission, his penchant for secrecy, and his insistence on keeping government control over the domestic atomic energy industry at a minimum. In addition, Strauss' troubles arose in part from the fact that he wore two hats—chairman-

ship of the AEC and adviser to the President on atomic energy. The latter position gave him access to information which he was not free to pass on to the other commissioners, who were thus placed in a disadvantageous position. Strauss will no longer hold either post, although he will serve as assistant to the President in promoting the atoms-for-peace program.

The President's selection of John A. McCone, a California industrialist, to succeed Strauss as AEC chairman is seen as a shrewd choice from several angles. McCone is known to have a deep-rooted faith in private enterprise and his views on major issues closely parallel those of Strauss. It is unlikely that he will be any more favorable to a stepped-up government nuclear reactor program than his predecessor.

ON the other hand, McCone is expected to avoid the kind of personality clashes that marked nearly every appearance of Strauss before the Joint Committee. Furthermore, McCone is less subject to political attack, having served under the Truman administration. That makes it difficult for Democrats in Congress to

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mobilize any opposition to his confirmation, however much some of them may dislike the President's choice. McCone, who is sole owner of the Joshua Hendy Corporation and a director of a number of West coast banks and insurance companies, served on President Truman's Air Policy Committee in 1947 and 1948. He was deputy to the Secretary of Defense in 1948, and Under Secretary of the Air Force in 1950-51.

On the development of competitive atomic power, one of McCone's personal friends has been quoted as describing the nominee as "to the right of Lewis Strauss." According to reports, McCone "is very definitely a conservative who believes in the capacity of private enterprise to deliver the goods." This view will undoubtedly get McCone into hot water with the majority members of the Joint Committee. The administration, however, apparently feels that a new face on the AEC might remove some of the friction, at least for the present, even though it is not intended to change basic policy.

A strong indication that there will be no significant change in policy has been indicated by the AEC's long-range program which has been presented to the Joint Committee. The primary objectives of the program are (1) to achieve competitive nuclear power overseas in five years, and (2) to achieve the same goal in the United States in ten years. The difference in target dates results from the high cost of conventional electric power abroad—about twice as great as in the United States.

THE program contained some concessions to congressional Democrats who have been urging accelerated development and construction of atomic power plants. But many of them have already made it clear that the program does not go far enough to suit them. Under the

program, the government's research and development would be expanded in the fields of new atomic reactor concepts and improvement of efficiency of atomic fuels in the next five years, thus establishing a five-year research program to succeed the one laid down by the commission in 1953. The commission proposed extension, but not enlargement, of the present program of relying on private industry to build large-scale plants with government assistance. As in the past, the proposal contained the provision that the commission would build certain plants if private industry proved unwilling to undertake them.

Specifically, the commission recommends extension of the third round of the Power Reactor Development Program to December 31, 1959, for approval of proposals, and to June 30, 1964, for completion of plants. Says the AEC report: "Program objectives must be achieved by establishing a sound and economic basis for a nuclear power industry, not by artificial and premature expansion of the industry."

The commission's program calls for government construction of one 40,000-kilowatt gas-cooled reactor, but Democrats are expected to add at least one more plant in the program they plan to draft as a substitute for the commission's plan. The AEC's insistence on relying primarily on private industry for domestic atomic development brought immediate objections from Representative Holifield (Democrat, California), who complained that "we would be sucked into another lagging program because of private industry's unwillingness to do the job."

"Antirecession Dud"?

A \$2 BILLION public works program sponsored by the Democrats has been

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denounced by Republicans as an "anti-recession dud." The administration has given strong hints that the measure faces a presidential veto if it ever reaches the White House. The bill, an amended version of Senator Fulbright's community facilities bill which has already passed the Senate, won easy approval of the House Banking and Currency Committee. But it faces a tough fight in the House Rules Committee and on the House floor when and if it is brought up for debate.

The measure calls for the federal Treasury to pump out \$2 billion in loans bearing interest of about 2½ per cent to municipalities and counties to finance public works. The Senate bill called for \$1 billion in loans at 3½ per cent. Even this more modest measure is expected to meet White House disapproval.

IN a strong minority report, Republicans on the House Banking and Currency Committee echoed the administration's view that the legislation would have negligible antirecession effect. They said "massive" federal intervention to provide additional financing for local public works was "clearly . . . not justified" because "this phase of our economy is experiencing an unprecedented boom.

Opponents of the measure point out that no new jobs would be created, which is the avowed purpose of the legislation, because local communities would merely substitute the "subsidized" low-interest federal loans for funds they otherwise would borrow in the private investment market. For every dollar that was loaned at 2½ per cent interest, the federal government would lose about one per cent in interest every year when administration costs of the program are taken into account. Seeking to line up opposition to the bill from Congressmen from small towns and rural areas, the Republicans

charged that the legislation would, in effect, grant preference to "big cities" in allotting the "subsidized" low-interest loans.

FROM the point of view of utilities, the House bill has one advantage over the Senate-passed measure. The House Committee wrote into its bill a prohibition against using funds to build facilities to compete with privately owned utilities, except in cases where the state utilities commission determines such facilities are needed and would not otherwise be provided. There is no similar provision in the Senate bill, although the Senate committee said that such a prohibition was to be assumed from past practice.

Hell's Canyon Finale

THE action of the House Irrigation and Reclamation Subcommittee in voting down the last remaining bill to authorize federal construction of Hell's Canyon dam on the Snake river means the end of the legislative road for proponents of the federal project. The vote of the subcommittee (15-13) to reject an authorization bill passed by the Senate last year was identical to that which killed a similar House bill last spring.

Some die-hard proponents of federal construction are talking of reviving legislation next year. But the more realistic among them admit that the subcommittee vote leaves them with little more than a possible election campaign issue. Opponents of the federal project made much of the fact that Idaho Power Company, licensed by the Federal Power Commission to build three dams on the Snake river, including one in Hell's Canyon, has already spent \$87 million on two of its dams—Oxbow and Brownlee.

Telephone and Telegraph



No FCC Network Curb

CHAIRMAN John C. Doerfer of the Federal Communications Commission stated on June 3rd that the commission would await a formal, written opinion from the Justice Department before deciding whether to prohibit certain television network practices. The chairman confirmed that the department had advised the FCC that the practices were violations of the antitrust laws. He said this advice, given at a conference April 24th, was "informal" and "tentative."

Chairman Doerfer testified at hearings of the Senate Commerce Committee. He was questioned sharply by Senator John W. Bricker (Republican, Ohio), author of a bill to give the commission new regulatory powers over the networks. The network practices that have been criticized include a "must-buy" policy of making advertisers use a fixed group of stations, option-time agreements allowing the networks to pre-empt time on local stations, and program tie-ins making purchasers of network time use certain programs.

The Justice Department stand on each of these was not made entirely clear by Doerfer. But he left the impression that the department considered the "must-buy" policy an antitrust violation per se and the two other practices also a viola-

tion when used together. He confirmed that department officials, at the April 24th meeting, strongly urged FCC regulation in preference to antitrust suits against the practices.

Attorney General William P. Rogers is reported to have endorsed personally the position given to the commission in detail. Last year an FCC study group recommended action against the three network policies. The House Antitrust Subcommittee took the same view after hearings two years ago, as did the staff of the Senate Commerce Committee.

SENATOR Bricker began the hearing recently by noting these multiple attacks on network policies and urging action. He said:

If the commission concurs in the reasoned conclusions of the various reports—and I do not see how it can ignore their substantial unanimity on key points—then it is going to have to take substantial steps to achieve increased regulation of the practices which have been criticized.

At present the commission has no direct authority to regulate the networks and acts against them only by rules applied to network-owned and affiliated sta-

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tions. Senator Bricker's bill would give the FCC power to regulate the networks themselves.

Chairman Doerfer, speaking for the commission, expressed doubts about the bill because it did not clearly indicate what regulations Congress wanted the FCC to adopt for the networks. "That's the job of the commission," Senator Bricker said sharply. "If we do what you say, Congress could write all broadcasting regulations and abolish the commission."

Richard S. Salant, vice president of the Columbia Broadcasting System, also objected to the possible scope of the Bricker Bill. He said CBS would not object to a bill letting the commission regulate directly only those network matters it now controls indirectly. Kenneth Cox, committee counsel, asked Mr. Doerfer whether the commission would act against any practice found illegal by the Justice Department.

Phone Dialing Plan Tested

TESTS of a method to speed up person-to-person calls by enabling the customer to dial them direct were started June 9th by the New York Telephone Company. The trial—first in the Bell system—was made only on mid-Manhattan telephones having numbers that begin with YUkon 8. If it succeeds in this trial, the company will extend to upwards of 600,000 other customers the speed of connection on person-to-person, collect, or credit card calls that they have now on station-to-station calls.

"As soon as we can check on customer understanding and reaction and put the equipment through its paces, we can begin the rather lengthy process of designing and manufacturing it in quantity," a company spokesman said.

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To make a call now to a point like San Francisco, the growing number of customers who have telephones equipped for direct distance dialing merely dial 415 (the area code which includes San Francisco) and then the telephone number. For a person-to-person, collect, or credit card call the YUkon 8 customer will dial a zero immediately before dialing the area code and telephone number, the spokesman explained. The zero brings a special operator on the line, and the customer tells her the name of the person desired, or the credit card number, or the fact that it is a collect call, whichever the case may be. Charges for the call cannot start until the operator releases the timing machinery.

Time is saved not only because direct distance dialing makes the connection a third faster than other methods, but also because the call is speeding on its way at the same time the operator is getting the person, collect, or credit card information. The company says that the average customer-dialed long-distance call goes through in forty to forty-five seconds.

There are about 3,600 customers with YUkon 8 numbers. The company said that for the purposes of this trial, in order to provide a broad base of calls, the service has been extended to 17 midtown business firms which have agreed to make calls the new way.

Self-feeding Telegraph

A NEW robot facsimile telegraph transmitter that feeds messages to itself mechanically and transmits them automatically to destination in picture form was publicly demonstrated in Washington, D. C., for the first time on June 4th by Western Union. Called a flat-bed transmitter, it is the first facsimile ma-

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chine to send telegrams, letters, cards, memos, drawings, and other communications, one by one, on a continuous automatic basis. At destination, a "slave" facsimile recorder receives and cuts off the message automatically and then readies itself for the next message. One of the most important features of the all-automatic, flat-bed facsimile machine is its operation at both ends on an unattended basis.

Designed by Western Union engineers primarily for public use on a lease basis, the flat-bed transmitter is being exhibited at the Armed Forces Communications and Electronics Association convention which held a three-day session last month at the Sheraton Park hotel. The flat-bed facsimile machine is so called because messages are placed on a flat surface for transmission instead of being wrapped around a drum. Rollers draw the messages through the machine automatically. The machine handles messages of any length and up to $8\frac{1}{2}$ inches in width. Copy from a telegraph teleprinter receiving machine can be fed directly and continuously into the facsimile transmitter.

Messages of all sizes, shapes, and colors may be transmitted on an intermingled basis by the flat-bed machine. The machine will handle messages written on cardboard, tissue, bond, or mimeograph paper without difficulty. As many as twenty standard-size letters can be loaded into the machine at one time and all transmitted within one hour at the rate of one letter every three minutes.

IF a letter, telegram, or memo does not fill the entire page, an indicator, set just below the signature, will stop transmission, quickly feed out the message, and begin sending the next one with no loss of time. The machine is also designed

so that a high priority message may be transmitted ahead of other messages in the machine without disturbing their sequence.

One model of the flat-bed transmitter uses a conventional scanning system. The other employs a scanning spot of light a hundredth of an inch in diameter which "flies" across the message 360 times a minute. A cylindrical mirror picks up the light spot and sends it into a photocell which then transmits the light and dark signals by wire to the distant receiving machine.

New REA Appointment

REA Administrator David A. Hamil has announced the appointment of Walter L. Wolff as administrative officer in the office of the Administrator.

Mr. Wolff will be responsible for reviewing telephone loan applications. He will also advise and confer with the Administrator and his immediate staff on policies and procedures relating to the telephone loan program.

Mr. Wolff joined the REA staff in 1936. A registered professional engineer, he has worked in both the REA electric and telephone programs. Before joining the staff of the Administrator he was head of § 7, telephone operations and loans division.

William P. Riley has been appointed to replace him as head of the section which includes Kentucky, North Carolina, South Carolina, and Tennessee. Mr. Riley has been with REA since 1939. He previously headed up § 4, TOLD.

Moving up from assistant head to take charge of § 4 is Lewis V. Hall. He joined REA in 1950 and in assuming his new duties will work with REA telephone borrowers in Iowa, Illinois, and Missouri.



Financial News and Comment

By OWEN ELY

*We Seem to Be Coming Out Of the Recession**

RECENT business news has been encouraging and the stock market has reflected this in an upsurge in prices, the Dow-Jones industrial average recovering to 479, better than halfway back to the old high of 521 (the low last October being 420). Utility stocks have enjoyed a bull market of their own, not only recovering the decline of last fall, but climbing to new high levels, the best since 1930.

Weekly electric power output now shows a gain of 1 per cent over last year contrasted with some earlier declines of 2 per cent. Carloadings for the week ended June 7th were the best since December 7th, although still nearly 17 per cent under 1957. The latest *New York Times* index (for the week ended June 7th) is up 0.4 from the preceding week, though 10 per cent below last year; the index has been rising for about a month, the best improvement since last October-November. *Business Week's* index has advanced from 120.4 around the first of May to 127.8 (preliminary for week ended June 7th); this index has now recovered nearly one-third of its decline from a year ago.

*See also "Federal Controls Should Prevent This Recession from Becoming Another 1929" in the April 10th issue, p. 533.

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As forecast by these weekly indicators, the Federal Reserve Board index for May has risen to 127, up one point from April but down from the postwar peak of 147 in December, 1956, and 145 in August, 1957. The gain in the production index was due largely to improvements in the steel and automobile industries. Steel production, after reaching a low of 47 per cent of capacity in the week ending April 26th, rebounded to 60.8 per cent in the first week of June, with the heavier demands from the construction and farm equipment industries accounting for much of the rise. Thus the index of "durables" output was up two points from April while that of nondurables was unchanged, and the minerals index showed a one-point gain. Prior to the moderate recovery in May the FRB index had declined steadily for eight months, being down 14 per cent from the February, 1957, level.

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THOSE who would disparage these moderate gains in business remind us that the gain in steel operations is due mainly to the anticipated increase in prices around July 1st, when automatic wage increases go into effect for that industry. They also point to the influx of 2 million summer workers at the end of the school year which might push unemployment figures up to 6 million. Moreover, the summer vacation period offers an excellent opportunity for lengthy cut downs in the automobile industry, so as to reduce dealer stocks before new models come in. Thus some observers view the May-June figures with a jaundiced eye and look for a further dip in the Federal Reserve Board index this summer.

However, even pessimistic commentators have to admit that thus far we have had only a "depression de luxe." Much of the setback in business has been due to a wave of conservatism in business psychology and in consumer buying, rather than a lack of public buying power. The Federal Reserve, alarmed by inflation possibilities, put on the brakes too sharply and frightened business into a period of inventory reduction, and retrenchment of expansion plans. The public, annoyed with certain features of new auto models, decided to wait out the next models and save a little cash. Some of the extra cash went into travel plans—now at record levels.

WASHINGTON has decided that the best way to end the recession is to pump more purchasing power into the economy, rather than to cut taxes. In March and April personal income moved upwards slowly, having reached bottom in February (although that bottom was still 1 per cent higher than a year earlier). The rise in farm prices and farm income, along with a special insurance dividend to World

War I veterans, had helped turn the tide against the decrease in wage income.

Now there are other special factors which may keep personal income on the upgrade. Federal money is being made available to extend unemployment compensation, where the states wish to avail themselves of this; such compensation offsets roughly one-third of wage losses. Recently substantial salary increases were voted to federal government workers, including military personnel, and retroactive payments will bring these employees large "lump-sum" payments beginning currently and lasting through July. It is estimated that these temporary payments will be at an annual rate of \$4.2 billion, while the regular rate of increase will approximate \$1.7 billion. Thus the combined temporary and permanent increases could raise personnel income for the whole nation by over 1 per cent during June-July, which should probably more than offset any summer slackness in industry. Moreover, the lump-sum benefits might very well give some fillip to automobile buying, especially if new models make their appearance early as anticipated.

THE Labor Department reported that unemployment among workers covered by the compensation system dropped 65,300 in the week ended May 31st, the seventh consecutive week of decline. However, this index is not too reliable because of the fact that some workers' compensation time is running out. Initial claims, which are a measure of new layoffs and hence somewhat more reliable as a trend indicator, declined in the week ended June 7th to 321,000, a low for the year.

Retail sales (adjusted for seasonal variation) dipped in February and March, but recovered in April and probably in May; the April figure showed only a negligible decline from last year. Department

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stores in the week ended June 7th reported sales 1 per cent above last year, compared with a 1 per cent drop in the previous week; in the four weeks ended June 7th their sales were unchanged from a year ago, although for the longer period, January 1st-June 7th, volume was down 2 per cent.

WHAT progress are we making toward reducing inventories? Formerly they were being built up at the rate of \$3 billion a year, but recently we have been reducing them at the rate of about \$8 billion, and this change is said to be responsible for

about two-thirds of the decline in total production. A reduction in inventory cutting might result from an improvement in business psychology, and this would stimulate business activity to some extent even though inventories might continue to decline. The June *Letter* of the First National City Bank reported that the ratio of inventories to sales declined in April for the first time since the recession began, indicating that progress is being made in bringing stocks more nearly in line with current business volume. The New York Federal Reserve Bank's latest review also holds that reduction in inventories is now



CALENDAR OF PROPOSED UTILITY OFFERINGS

June 27th-September 30th

<i>Date of Bidding Or Sale</i>	<i>Approx. Amount (Millions)</i>	<i>Bonds</i>	<i>Method Of Offering</i>	<i>Probable Moody Rating*</i>
6/30	\$10	Orange & Rockland Utilities 1st Mtge. Bonds 1988	C	
7/1	25	Florida Power Corp. 1st Mortgage Bonds 1988	C	A
7/8	30	Northern States Pwr. (Minn.) 1st Mtge. Bonds 1988	C	Aa
7/	2	Plymouth County Electric Bonds	N	
7/	45	Consolidated Natural Gas Bonds	C	Aaa
7/8	10	Laclede Gas (Ref.) Mortgage Bonds	C	A
7/9	65	New York Telephone Bonds	C	Aaa
7/10	30	Southern Natural Gas Bonds		A
7/17	25	Tampa Electric Bonds	C	Aa
7/22	15	Washington Water Power Bonds		A
7/23	9	Otter Tail Power Bonds	C	
8/11	20	Utah P. & L. (Ref.) Bonds	C	A
8/12	20	Montana Power Bonds	C	Aa
8/20	60	Public Service E&G Bonds	C	Aa
8/26	40	New England Tel. & Tel. Bonds	C	Aa
9/23	25	Consumers Power Bonds	C	Aaa
9/30	110	Southwestern Bell Telephone (Ref.) Bonds	C	Aaa
<i>Preferred Stocks</i>				
7/	5	California Water & Telephone Convertible Pfd. ...	N	
7/8	8	Laclede Gas Pfd.	N	
7/10	25	Boston Edison Pfd.	N	
9/23	25	Consumers Power Pfd.	C	
<i>Common Stocks</i>				
6/23-7/8	47	Pacific Gas & Electric	N**	
7/22	8	Washington Water Power		

C—Competitive. N—Negotiated. *Assumed on basis of present bond rating, in most cases.
**Rights offering, negotiated underwriting.

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proceeding at a slower pace than in the first quarter, and may diminish further.

In the housing field recent news has also been encouraging. With the easing of the mortgage requirements for veterans and FHA programs, private home-building activity in May was above the million-a-year rate for the first time since January. In January it was at the rate of 1,020,000, dropped to 880,000 in March, and has now recovered to 1,010,000. The filing of applications for mortgage insurance and government guaranties indicate further improvement. The bureau also estimated that 105,000 homes were actually started in May, 10,000 more than in the previous month, a larger-than-normal increase.

A SURVEY by the National Bureau of Economic Research made early in April indicated that consumers planned to spend 10-20 per cent less on durables over the next six months than last October—but the period covered by this forecast is now nearly half over. Also, the upturn in residential building should in due course help sales of house furnishings, and in the past this has been an important factor in antirecession moves. Regarding automobile buying, sales have been running at the rate of one-third below a year ago and now do not exceed the rate of normal scrappage of old cars. Passenger car output increased 7 per cent in May over April, it is estimated, and is expected to hold at that level during June. Automobile manufacturers and aviation companies are now obtaining increased defense orders as the military program has again swung into high gear.

What about heavy construction projects—road building, schools, factory building, etc.? *Business Week* predicts that spending for new construction will increase sharply in the last half of 1958 and that physical volume of construction will

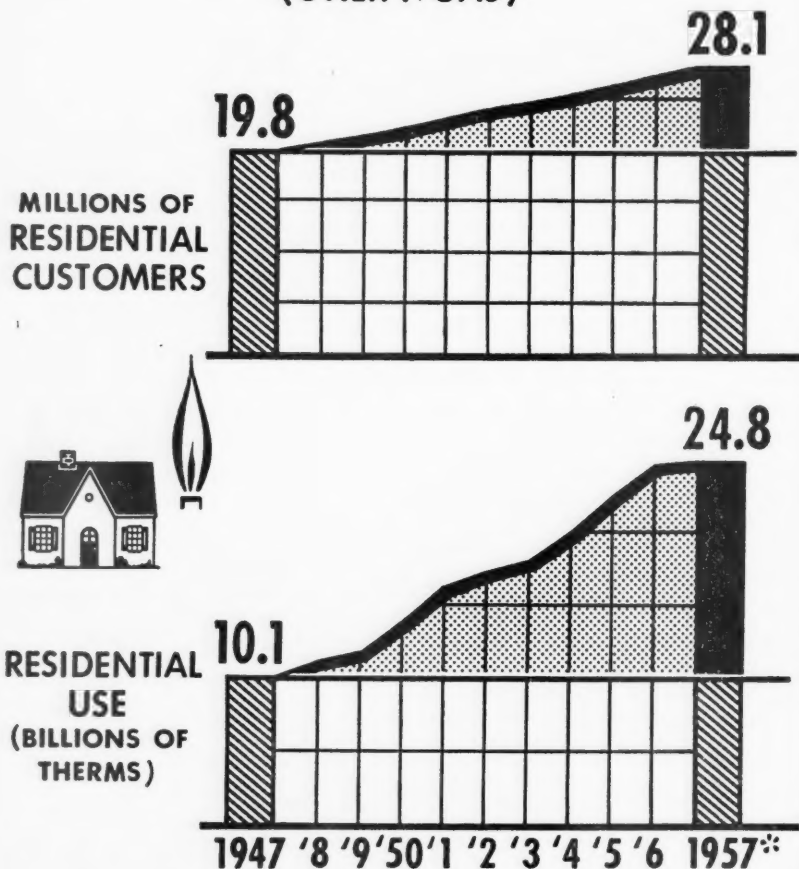
be up even more. Last year \$47 billion worth of construction was completed, and the most optimistic forecast for this year (from the Commerce Department) is \$49.6 billion—although volume in the first half of the year is still no better than last year's. The big federal-aided highway program is said to be moving on schedule or perhaps ahead of schedule. The Chase Bank points out that, while business investment in new plant and equipment has declined \$5 billion or 10 per cent from the peak and may go lower, government expenditures by the end of this year may be up about \$4 billion and state and local projects about \$2 billion—thus offsetting the decline in private work.

IT is reported that reduction in borrowing costs, and increased competition among contractors, has resulted in some sharp declines in bids—as much as 10 to 40 per cent—for new projects. The more drastic reductions are reported below the break-even point, designed to keep men and machinery operating. However, much of the price cutting is said to reflect greater efficiency—obtaining more productivity out of labor and machinery, using greater ingenuity in various ways, and insisting on better prices from suppliers. (Wholesale prices as reflected in the Labor Department index recently declined to the lowest point this year.) From a government angle the saving in costs has a dual aspect—while it helps the taxpayer it does not get as much money into circulation.

Expenditures on private construction of new plant and equipment, as reported by *Business Week* from data compiled by the Department of Commerce and the SEC, show a decline from last year's \$37 billion to an estimated \$30.8 billion for calendar 1958. Unfortunately, communications companies are bracketed with

TEN YEAR INCREASE IN HOME USE OF GAS

(UTILITY GAS)



SOURCE: AMERICAN GAS ASSOCIATION

*PRELIMINARY

THE gas utility industry has added an average of 830,000 new residential customers a year during the past decade for a total increase of 42 per cent since 1947. Meanwhile, residential use of utility gas has increased to nearly 25 billion therms as a result of the steadily increasing demand for gas for house heating and the growing popularity of modern gas appliances.

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"commercial and other" so that we do not have the big telephone figures separately. "Public utilities" (presumably including electric, gas, and water, but not transit) still constitute the only group showing an increase for 1958—\$6.3 billion *versus* \$6.2 billion in 1957—but the rate of increase appears to be lower than reported earlier.

Thus while considerable skepticism still exists in some quarters, the statistical evidence seems to indicate that the administration's forecast that we would emerge from the recession in April or May was about right. However, it will naturally take some months to get back to a normal level of activity and our economic state of health may continue to be "delicate" for some time.

Difficult Rate Decision in Peoples Gas Case

IN July, 1957, Peoples Gas Light & Coke Company of Chicago filed a request with the Illinois Commerce Commission for a rate increase approximating \$11,860,000, reflecting a general overhauling of the rate structure. We cannot attempt to analyze the commission's 38-page decision from a legal viewpoint in this space, but summarize the financial findings as follows:

The commission found "used and useful utility plant" plus land value to be about \$184 million, contrasted with a figure of \$203 million in the report to stockholders; but it allowed a reserve of only \$22 million compared with the book figure of \$52 million, and hence net plant cost of \$162 million exceeded the \$151 million book figure. Reproduction cost, depreciated, was found to be \$337 million, or an additional \$175 million. The commission accepted slightly more than one-quarter of the excess of reproduction cost over

original cost, and after including some \$12 million for work in progress, working capital, etc., arrived at a year-end rate base of \$220 million. The commission is required to use fair value by the decision of the Illinois supreme court in the Illinois Bell Telephone case in 1953.

Regarding rate of return, the opinions of expert witnesses as to a fair return ranged from 5.85 per cent to 7.53 per cent, the latter including an additional allowance of 0.50 per cent above "calculated" cost of capital. The commission adopted 5.85 per cent, which is substantially lower than allowed in many other recent rate decisions, especially those in California where Pacific Telephone & Telegraph was recently allowed 6 $\frac{3}{4}$ per cent. While the commission stated that it had considered a wide variety of statistical data in arriving at this conclusion, it did not give any analysis of its reasoning other than to refer to past decisions permitting automatic adjustment of rates for increased cost of gas, and the permission granted to set up subaccounts for deferred taxes resulting from accelerated depreciation. There was also some implication that the equity ratio of 67.6 per cent was too high.

THE commission then studied the 1957 income account figures, adjusting both revenues and expenses. Revenues were increased to a pro forma basis for interim rate increases by about \$1.7 million, and expenses were cut principally through reduction in amortization of plant. Resulting net operating income of \$10.3 million compared with \$9 million as shown in the stockholders' report. Allowed earnings would be 5.85 per cent on \$220 million or \$12,870,000. Thus 1957 earnings were inadequate (on the commission's finding) by \$2,522,000 and to meet this the commission concluded that the company needed an increase in revenues

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of about \$5.7 million—less than half the requested amount.

The commission had made a special point of having allowed the reserve for deferred taxes (resulting from accelerated depreciation) to remain in the rate base, since the "purpose of the congressional enactment . . . would be defeated if this commission were to deny utilities the same tax treatment which is allowed other concerns under that section. To deny utilities the right to earn a return on tax accruals invested in plant expansion would be to work a discrimination not intended by Congress and would defeat its purpose in providing an incentive for plant expansion and improvement."

Transit Deficit \$10 Million

THE New York Transit Authority has made public that it will end its fiscal year with a deficit of \$10 million—\$1.5 million more than expected.

Even so it is hoped that the present 15-cent subway fare will be maintained for the rest of 1958. An upturn in the economy may eliminate necessity for a fare increase in 1959, Chairman Charles L. Pat-

terson of the Transit Authority stated.

The authority's trouble is that it continues to lose passengers. It had hoped that the postwar plateau in passenger usage had been reached last year.

New York's transit problems are not unique, however, declared Patterson. He cited statistics to show that in April and May of 1958 transit revenues had declined from 2 per cent in San Francisco to 20.5 per cent in Detroit.

Increased labor costs and higher prices for materials are two of many factors, besides fewer passengers, that have contributed to the present financial plight of New York's transit system.

In its next budget the authority may abandon the principle of deferred maintenance—a program designed to catch up on maintenance work left undone during World War II and before. Instead, it will make maintenance a regular part of the budget at a cost of about \$5 million a year. The authority is also seeking to economize by further cuts in the size of its staff. When the present agency took office three years ago it had a work force of 43,000. Today the employees number fewer than 38,000.

DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mill.)			6/11/58 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Incr. In Sh. Earnings 1952-57	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
\$284	S	American Elec. Power	44	\$1.60	3.6%	\$2.21Ap	7%	9%	19.9	72%	33%
50	O	Arizona Pub. Serv.	33	1.20	3.6	*1.81Ma	2	7	18.2	66	30
11	O	Arkansas Mo. Power	20	1.00	5.0	1.43Ma	7	2	14.0	70	32
32	S	Atlantic City Elec.	37	1.40	3.8	1.85Ap**	11	10	20.0	76	28
142	S	Baltimore G. & E.	41	1.80	4.4	2.19Ma	D11	6	18.7	82	43
7	O	Bangor Hydro-Elec.	35	1.90	5.4	2.16Ma	D19	4	16.2	88	36
6	O	Black Hills P. & L.	26	1.44	5.5	2.11Ap	D6	3	12.3	68	30
104	S	Boston Edison	54	2.80	5.2	3.12De	D10	—	17.3	90	47
24	A	Calif. Elec. Power	16½	.76	4.6	1.02Ma	D9	1	16.2	75	28
23	O	Calif. Oreg. Power	32	1.60	5.0	1.85De	D19	2	17.3	86	35
8	O	Calif. Pac. Util.	30	1.60	5.3	2.34Ap**	—	3	12.8	68	30
67	S	Carolina P. & L.	31	1.32	4.3	1.92Ma	15	4	16.1	69	40
30	S	Cent. Hudson G. & E.	17	.80	4.7	1.14Ma	6	6	14.9	70	31
23	O	Cent. Ill. E. & G.	36	1.60	4.4	2.55Ap	8	11	14.1	63	36
37	S	Cent. Ill. Light	29	1.40	4.8	2.05Ap	5	9	14.1	68	38
53	S	Cent. Ill. P. S.	36	1.68	4.7	2.55Ma	10	13	14.1	66	40

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Annual Rev. (Mill.)	(Continued)	6/11/58 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Incr. In Sh. Earnings 1952-57	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
15	O Cent. Louisiana Elec.	38	1.60	4.2	2.25Ma	16	8	16.9	71	30
38	O Cent. Maine Power	24	1.40	5.8	*1.83Ma	D3	5	13.1	76	32
137	S Cent. & South West	47	1.70	3.6	2.44Ma	10	10	19.3	70	40
12	O Cent. Vermont P. S.	17	1.00	5.9	*1.11Ap	D7	2	15.3	90	33
121	S Cincinnati G. & E.	34	1.50	4.4	2.01De	1	9	16.9	75	39
7	O Citizens Util. "B"	19	1.00	5.3	1.22Ma	6	7	15.6	82	40
119	S Cleve. Elec. Illum.	40	1.60	4.0	2.64De	1	11	15.2	61	50
5	O Colo. Cent. Power	30	1.32	4.4	1.79Ma	D1	4	16.7	74	41
44	S Columbus & S. O. E.	34	1.60	4.1	2.50Ma	8	5	13.6	64	30
380	S Commonwealth Ed.	48	2.00	4.2	2.89Ma	4	5	16.6	69	40
13	A Community Pub. Ser.	28	1.30	4.6	1.96Ma	5	6	14.3	66	45
75	O Conn. Lt. & Pr.	20	1.00	5.0	*1.30Ap	16	5	15.4	77	34
582	S Consol. Edison	55	2.80	5.1	*3.66Ma	16	6	15.0	77	38
221	S Consumers Power	54	2.40	4.4	3.30Ap	5	5	16.4	73	38
78	S Dayton P. & L.	50	2.40	4.8	3.32Ma	2	2	15.1	72	38
49	S Delaware P. & L.	53	2.00	3.8	2.83Ma	7	12	18.7	71	30
251	S Detroit Edison	41	2.00	4.9	2.55Ma	3	11	16.1	78	44
136	A Duke Power	38	1.40	3.7	2.23Ma	14	15	17.0	63	47
99	S Duquesne Light	40	2.00	5.0	2.60Ma	7	4	18.4	77	34
32	O East. Util. Assoc.	37	2.20	6.0	*2.56Ap	10	0	14.5	86	34
2	O Edison Sault Elec.	16	.80	5.0	1.18De	10	24	13.6	68	33
14	O El Paso Elec.	26	1.00	3.8	1.44Ap	1	9	18.1	69	37
12	S Empire Dist. Elec.	22	1.20	5.5	1.43Ma	D12	3	15.4	84	32
52	S Florida Power Corp.	66	2.00	3.0	3.26Ma	10	13	20.2	61	37
131	S Florida P. & L.	68	1.52	2.2	3.17Ma	17	22	21.5	48	39
202	S General Pub. Util.	44	2.00	4.5	*3.12De	5	9	13.7	62	41
7	O Green Mt. Power	17	1.00	5.9	1.18Ma	D3	7	14.4	84	36
62	S Gulf States Util.	45	1.80	4.0	2.23Ap	D3	11	20.2	81	31
49	A Hartford E. L.	64	3.00	4.7	4.35Ma	8	10	14.7	68	41
24	O Hawaiian Elec.	47	2.50	5.3	3.01Ma	D10	12	15.6	83	36
87	S Houston L. & P.	53	1.60	3.0	2.75Ma	D3	11	19.3	58	42
28	S Idaho Power	41	1.50	3.7	2.43Ma	11	12	16.9	62	31
87	S Illinois Power	33	1.50	4.5	2.02Ap	6	7	16.3	74	34
46	S Indianapolis P. & L.	33	1.50	4.5	2.13Ma	2	7	15.5	70	35
26	S Interstate Power	17	.85	5.0	1.06Ma	2	2	16.0	80	31
36	O Iowa Elec. L. & P.	31	1.50	4.8	2.11Ap	5	5	14.7	71	38
41	S Iowa-Ill. G. & E.	38	1.80c	4.7	2.48Ma	2	3	15.3	73	38
39	S Iowa Power & Lt.	33	1.60	4.8	2.03Ma	—	4	16.3	79	30
34	O Iowa Pub. Serv.	16	.80	5.0	1.15Ma	7	8	13.9	70	35
14	O Iowa South. Util.	25	1.28	5.1	1.94Ap	15	5	12.9	66	40
61	S Kansas City P. & L.	46	2.00	4.3	2.99Ap	7	7	15.4	67	37
32	S Kansas G. & E.	36	1.40	3.9	2.39Ma	5	13	15.1	59	30
48	S Kansas Pr. & Lt.	28	1.30	4.6	2.00Ma	D1	7	14.0	65	31
39	O Kentucky Util.	30	1.40	4.7	2.07Ma	1	3	14.5	68	36
7	O Lake Superior D. P.	23	1.20	5.2	1.64Ma	—	3	14.0	73	39
110	S Long Island Ltg.	26	1.20	4.6	1.55Ma	7	5	16.8	77	34
56	S Louisville G. & E.	32	1.20	3.8	1.83De	D3	3	17.5	66	41
10	O Madison G. & E.	49	1.80	3.7	3.86Ma	D5	11	12.7	47	45
5	A Maine Pub. Service	20	1.16	5.8	1.40Ap	3	7	14.3	83	37
6	O Michigan G. & E.	53	1.60	3.0	4.36Ma	8	8	12.2	37	40
172	S Middle South Util.	42	1.80	4.3	2.55Ma	13	6	16.5	71	35
30	S Minnesota P. & L.	34	1.60	4.7	2.61Ma	23	11	13.0	61	33
3	O Miss. Valley P. S.	28	1.40	5.0	2.08Ap	D3	3	13.5	67	32
13	A Missouri Pub. Serv.	16	.72f	4.5	1.02De	D2	9	15.7	71	29
7	O Missouri Util.	25	1.36	5.4	1.73Ma	D4	3	14.4	79	33
44	S Montana Power	55	2.00	3.6	*3.79De	5	8	14.5	53	41
159	S New England Elec.	18	1.00	5.6	1.24Ma	5	5	14.5	81	34
46	O New England G. & E.	19	1.05	5.5	1.53Ma	8	5	12.4	69	41
49	O New Orleans P. S.	43	2.25	5.2	3.29Ap	28	0	13.1	68	39
3	O Newport Elec.	18	1.10	6.1	1.09Ma	D17	—	16.5	100	31
89	S N. Y. State E. & G.	46	2.00	4.3	*3.30Ap	9	6	14.0	61	37
255	S Niagara Mohawk Pr.	35	1.80	5.1	*2.00Ma	D3	—	17.5	90	28
87	O Northern Ind. P. S.	43	2.00	4.7	3.05Ap	NC	6	14.1	66	33
148	S Nor. States Power	21	1.00	4.8	1.28Ma	7	4	16.0	78	33
10	O Northwestern P. S.	17	1.00	5.9	1.49Ma	18	0	11.4	67	27

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Annual Rev. (Mill.)	(Continued)	6/11/58 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Inc. In Sh. Earnings 1952-57	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
136 S	Ohio Edison	54	2.64	4.9	3.59Ap	2	5	15.0	74	41
50 S	Oklahoma G. & E.	48	1.90	4.0	2.64Ma	8	5	18.2	72	30
21 O	Orange & Rockland Utils. .	20	.90	4.5	1.12Ma	NC	15	17.9	80	33
16 O	Otter Tail Power	30	1.60	5.3	2.22Ap	1	1	13.5	72	34
501 S	Pacific G. & E.	58	2.40	4.1	3.41De	1	10	17.0	70	33
50 S	Pacific P. & L.	35	1.60	4.6	*2.13Ma	NC	5	16.4	75	28
129 S	Penn Power & Lt.	48	2.40	5.0	3.14Ap	D5	9	15.3	76	30
236 S	Philadelphia Elec.	42	2.00	4.8	2.64Ma	—	4	15.9	74	39
36 O	Portland Gen. Elec.	25	1.20	4.8	*1.78Ap	D1	8	14.0	67	37
69 S	Potomac Elec. Pr.	26	1.20	4.6	*1.58De	2	3	16.5	76	32
91 S	Pub. Serv. of Colo.	46	1.80	3.9	2.69Ma	—	7	17.1	67	36
322 S	Pub. Serv. E. & G.	36	1.80	5.0	2.24Ma	4	3	16.1	80	34
79 S	Pub. Serv. of Ind.	43	2.00	4.7	2.74Ma	5	3	15.7	73	38
32 O	Pub. Serv. of N. H.	18	1.00	5.6	1.29Ma	D11	6	14.0	78	36
13 O	Pub. Serv. of N. M.	22	.80g	3.6	1.24Ma	5	8	17.7	65	35
27 S	Puget Sound P. & L.	30	1.36	4.5	*1.82De	9	16	16.5	75	50
60 S	Rochester G. & E.	37	1.60	4.3	2.21Ma	D1	2	16.7	72	32
8 S	St. Joseph L. & P.	28	1.50	5.4	2.02Ma	5	8	13.9	74	32
54 S	San Diego G. & E.	24	.96	4.0	1.32Ap	D8	D	18.2	73	36
10 O	Savannah E. P.	25	1.00	4.0	1.48Ap	26	25	16.9	67	30
10 O	Sierra Pacific Pr.	27	1.40	5.2	1.98Ap	2	12	13.6	71	30
217 S	So. Calif. Edison	57	2.40	4.2	3.20Ma	—	D	17.8	75	33
46 S	So. Carolina E. & G.	27	1.20	4.4	1.60Ap	16	15	17.0	75	36
7 O	Southern Colo. Pr.	16	.80	5.0	1.31F	D1	8	12.2	61	38
255 S	Southern Company	30	1.20	4.0	1.71Ap	16	8	17.5	70	32
19 S	So. Indiana G. & E.	33	1.60	4.8	2.42Ap	16	2	13.6	66	37
7 O	So. Nevada Power	22	1.00	4.5	1.40Ap	D9	9	15.7	71	40
1 O	Southern Utah Power	19	1.00	5.3	1.36Ap	D12	0	14.0	73	39
3 O	Southwestern E. S.	25	1.24	5.0	1.83De	12	3	13.7	68	28
42 S	Southwestern P. S.	35	1.48	4.2	1.76Ap	—	5	19.9	84	35
30 A	Tampa Electric	40	1.20	3.0	1.72Ap	4	11	23.3	70	37
155 S	Texas Utilities	49	1.60	3.3	2.54Ap	5	13	19.3	63	40
42 S	Toledo Edison	14	.70	5.0	1.02Ma	—	—	13.7	69	31
16 O	Tucson G. E. L. & P.	40	1.40	3.5	*2.34Ma	16	15	17.1	60	35
129 S	Union Elec. of Mo.	30	1.52	5.1	1.74	7	7	17.9	90	32
36 O	United Illuminating	26	1.30	5.0	1.54De	D4	2	16.9	84	48
6 O	Upper Peninsula Pr.	28	1.60	5.7	1.62Ma	D19	8	17.3	99	31
43 S	Utah Power & Lt.	29	1.20	4.1	*1.79Ap	4	8	16.2	71	42
130 S	Virginia E. & P.	30	1.00	3.3	1.59Ap	9	15	18.9	63	37
28 S	Wash. Water Power	41	2.00	4.9	2.47Ma	6	9	16.6	81	36
140 S	West Penn Elec.	31	1.50	4.8	2.22Ap	7	6	14.0	68	32
77 O	West Penn Power	50	2.40	4.8	3.33De	2	6	15.0	72	36
12 O	Western Lt. & Tel.	36	2.00	5.6	2.73Ma	D8	7	13.2	73	38
28 O	Western Mass. Cos.	45	2.20	4.9	3.21Ap	3	8	14.0	69	49
114 S	Wisc. Elec. Pr. (Cons.) ...	37	1.60	4.3	2.40De	D2	0	15.4	67	36
43 O	Wisconsin P. & L.	28	1.36	4.9	2.06Ap	6	4	13.6	66	40
40 S	Wisconsin P. S.	24	1.20	5.0	1.71Ma	D6	5	14.0	70	38
Averages				4.6%			7%	15.8	72%	
Foreign Companies										
215 S	Amer. & Foreign Pr.	14	1.00	7.1	2.03De	D3	0	6.9	49	44
170 A	Brazilian Traction	6½	.53a	8.2	1.52De	D30	0	4.3	35	75
75 A	British Col. Pr.	41	1.40	3.4	2.33De	—	15	17.6	60	28
18 A	Gatineau Power	36	1.50	4.2	2.39De	5	10	15.1	63	33
42 O	Mexican L. & P.	13	1.00b	7.7	1.96De	17	24	6.6	51	46
14 A	Quebec Power	34	1.40	4.1	2.17De	8	14	15.7	65	53
63 A	Shawinigan Water & Pr. ...	27	.68	2.5	1.48De	5	26	18.2	46	37

*Deferred taxes resulting from liberalized depreciation are not normalized. **On average shares. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. a—Also 5 per cent stock dividend December 27, 1957. b—Also 5 per cent stock dividend May 1, 1958. c—Also 5 per cent stock dividend March 10, 1958. f—Also stock dividend of one-half per cent quarterly. g—Also 5 per cent stock dividend July 1, 1958.



What Others Think

EEI Holds Twenty-sixth Annual Convention

An annual sales level of 3 trillion kilowatt-hours—more than five times last year's record—will be reached in 1979 by the nation's electric light and power industry, J. W. McAfee, retiring president of the Edison Electric Institute, forecast at the opening session of the institute's twenty-sixth annual convention in Boston last month.

Rapid growth in many phases of electric industry operation in the next two decades was seen by McAfee in forecasts for 1979, the one-hundredth anniversary of Thomas A. Edison's invention of the first practical incandescent electric light.

Among the predictions for the electric industry in 1979 are:

Total industry generating capability—665 million kilowatts, nearly five times the total at the end of 1957.

Peak load—578 million kilowatts, more than five times the 1957 peak.

Electric company generating capability—500 million kilowatts, better than 75 per cent of industry total, and over five times investor-owned capability at the end of last year.

Electric company investment in electric plant and equipment—\$221 billion, nearly six times the \$36.5 billion at the end of 1957.

Electric company revenues—about

\$50 billion annually, over six times the 1957 record of \$8 billion.

Electric company tax payments to federal, state, and local governments—nearly \$12 billion, about six times the 1957 tax bill of \$1.9 billion.

In discussing the forecasts, McAfee pointed out that the electric industry "has always been conservative in predicting the magnitude of its future." He said that the industry is expected to grow at an annual rate of about 8 per cent in sales, capability, and demand to reach the levels predicted for 1979, which means that the industry will double its achievements in these fields every nine to ten years.

In the past seven years, or about one-third of the forecast period, the entire electric industry has nearly doubled its sales and generating capability, he stated.

"In looking to 1979, we view the current situation as a breathing spell," McAfee said. "In the past, readjustments like this one have been followed by greater gains in the economy than before." In addition to reflecting the "conviction that the economy will continue to grow," he said that the institute's forecast assumed that no shooting war would occur, that the American people would continue

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along the road of individual initiative, and that the pattern of government economic activity affecting taxes, interest rates, spending, and inflation would be experienced as in the past.

By 1979, gross national product of the United States will reach about \$1 trillion annually in 1957 dollars, Mr. McAfee said, about two and a half times last year's total. If the present rate of inflation continues, the current dollar figure would be \$1.7 trillion in 1979, with the difference of \$700 billion being attributable to inflation.

Population is estimated at about 250 million in 1979, nearly half again as large as last year, and households will increase by about two-thirds, reaching more than 82 million in the forecast year.

THE homes and farms of the nation in light's centennial year will account for 35 per cent of total kilowatt-hour sales, compared with about 28 per cent now, McAfee said. In 1979, residential and rural use of electricity will be about 1.1 trillion kilowatt-hours, some seven times the consumption for 1957.

Electric house heating and lighting are two fields whose potential for growth could cause advances in household electricity use beyond what can now be predicted, he continued, noting that electric house heating is gaining in importance as a means of balancing the growing air-conditioning load. "When the customer begins to think of home heating as well as home cooling as a job for electricity," he said, "we will have opened the door to dramatic increases in our rate of growth."

McAfee pointed out that lighting, the load on which the industry was built, still has great potential, and that home lighting has been increasing at a much slower rate than kilowatt-hour sales for

other services in spite of significant advances in the art of lighting.

Large industrial power customers will be purchasing about 1.3 trillion kilowatt-hours annually in 1979, more than four and one-half times last year's amount, and commercial use is expected to be about 533 billion kilowatt-hours, five and one-half times consumption in 1957.

"Reflected in these dramatic figures will be increased automation in industrial processes and in office activities," McAfee said. "A big factor will be the growth and creation of new industries and job opportunities."

IN discussing the investment expected in electric plant and equipment by the companies, McAfee emphasized that the rise in investment in terms of cost per kilowatt of capacity is and will be much less rapid than the increase in overall construction costs affected by inflation. The electric industry's remarkable record is being maintained through advances in the design and construction of new plant and equipment, particularly in the use of larger and larger generating units, he commented. "During 1957, the cost per installed kilowatt for all electric plant, including generation, transmission, and distribution facilities, was about \$375 for the investor-owned companies. We believe that it will rise slowly in terms of current dollars, but at a far lower rate than the general inflationary trend."

Tax payments are expected to grow in step with other factors. "Between now and 1979, a sum of \$122 billion in taxes will be collected through electric company bills," McAfee estimated. He noted that last year 23 cents of every dollar in revenue received by the electric companies from customers went for taxes of all kinds, local, state, and federal.

Since 1933, about \$19.7 billion in taxes

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have been paid, \$13 billion of this during the past ten years, he said, and by 1979 the cumulative total will be more than \$141 billion.

The establishment in 1933 of the governmentally operated Tennessee Valley Authority, which pays no federal income tax and relatively small sums in lieu of other taxes, marked the beginning of significant government inroads into the electric light and power business.

"These huge amounts of money highlight the importance of the electric companies as a tax source to the entire economy," McAfee said. "If, for any reason, these taxes had to be raised by some other means than through electric company bills, serious dislocations in other parts of the economy would result."

"These forecasts present an exhilarating prospect," he continued. They represent the kind of achievement which "has brought leadership to America beyond that of any nation in world history."

For our own sake as a nation and to avoid seriously misleading others, he warned against "false modesty or misrepresentation of what we can do." He said that "We should not be afraid of realistic optimism, in the electric industry, or anywhere else in America, in the careful evaluation of our future."

"THE electrical industry must produce and sell about \$500 billion worth of electricity and one and one-quarter trillion dollars worth of electrical equipment between now and 1979, to supply the electrical needs of a United States whose population in twenty years will be over one-quarter billion people," Ralph J. Cordiner, chairman of the board of the General Electric Company, told electric utility leaders attending the convention.

Cordiner said that this is about "five times as much electricity and four times

as much equipment as the electrical industry has produced in the past eighty years." He emphasized that "these are high, hard, but achievable goals that can only be won by sustained effort, pursued courageously through good times and bad. The most important decisions of today's executives are those that will not be proved out until late in the 1960's and 1970's," he said.

Cordiner laid particular stress on the need for "a constructive, long-range atomic energy policy that is founded firmly on the national interest." That is why, he said, "in the public interest, it is essential that the spokesmen for industry agree on a common set of principles for the development of atomic energy within the framework of this country's traditional economic system." He indicated General Electric's willingness to convene a national conference of utility leaders, atomic equipment manufacturers, and appropriate government representatives to exchange ideas on the nation's atomic energy policy.

IN assessing the probable effect of present electrical trends, Cordiner noted that the research and engineering activities of the electrical industry are a major factor in the nation's growth prospects. He stated:

From General Electric's studies, it appears that the late 1970's may find the first demonstration power plants of fusion power going into operation, just as the first fission plants are going into operation now. Thus economical fusion power on a substantial scale would not be likely to make its appearance before the final two decades of this century.

Cordiner said that "fission and fusion are undoubtedly the two principal long-term prospects for basic change in the

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technology of the utility industry." Among other technical possibilities being explored, he cited "superconductivity, the fuel cell, semiconductor converters of various kinds, the thermionic power converter, and the need for new methods of storing electrical energy."

He pointed out that "during the past half-century, research and engineering have combined to produce turbine-generator systems that, on the average, use only about one-eighth as much coal per kilowatt-hour" as the first turbines. "Nothing on the technological horizon," he said, "gives promise of replacing rotating machinery for generating electricity economically."

"The advances in generating efficiency are not going to be enough to offset the effects of inflation in your production costs," he said. "Unless the basic inflationary trend is halted," the health of the electric industry and of the nation's economy "may depend on winning public understanding of the need for a realistic reappraisal of the appropriate selling price for electricity."

The laboratories are exploring new ways to distribute and use electricity, Cordiner said. Among these are "automatic equipment; the more imaginative and economical use of electronics; bigger blocks of power, with homes using the equivalent of today's small industrial and commercial establishments; and higher-voltage, higher-capacity transmission systems."

ANOTHER important factor in shaping the future will be the character of the American market, which, Cordiner predicted, will "change dramatically" in the next twenty years. "Rising levels of income and education, along with the sharp increase in household formation in the 1960's, will mean a bigger, higher

quality market for residential uses of electricity."

"The appliance manufacturers," he said, "have tried to meet the challenge of the market place with better products, larger and more efficient facilities, lower-cost distribution, sharply increased advertising and sales effort, liberalized credit, bargain prices, and—in the process—sharply reduced profits." While the general cost of living has risen 26 per cent since 1947, the prices of major appliances have declined 14 per cent, in spite of a 63 per cent increase in the cost of labor and a 50 per cent increase in the cost of key raw materials. "Yet, unit sales in 1957—a year of record levels of economic activity—were at levels disappointingly below 1956 or 1955 volume."

Cordiner stated:

Both manufacturers and utilities must build up their sales and advertising efforts. Electric utilities, whose advertising and sales expenditures in the postwar years have dropped to 1.6 per cent of gross revenues, might well consider the advantages of restoring the prewar expenditures of 2.5 per cent or 3 per cent of gross revenues.

In view of the rapidly increasing number of competing uses for the consumer's sales dollar, such advertising and sales expenditures would represent a prudent management investment by an industry that aims to grow about twice as fast as the economy as a whole.

"A THIRD critical area in which the future is being shaped now is in the halls of Congress and in the state legislatures," Cordiner said. "The real issue here is whether any special interest group should achieve such tremendous political power that it produces a serious imbalance in the nation's political structure." He continued:

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This time it just happens to be those union officials who support a program of big government, big taxes, and increasing government intervention in the private economy. The future demands less special-interest politics and more politicking in behalf of all the people.

The political challenge from forces hostile to business may outweigh any others in determining the political climate of the 1960's and the 1970's. It must be met by an equally determined, equally practical, and equally well-mounted effort on the part of those who hold that the whole public interest will best be served by encouragement of business enterprise and individual freedom.

In the past, the businessman may have felt that such political matters were not part of his regular assignment. They are now.

THE "coming of economically competitive nuclear power is as certain as anything well can be." The electric power industry must plan for major challenges resulting from nuclear development, Elmer L. Lindseth, president of The Cleveland Electric Illuminating Company, told the convention. Lindseth is also chairman of the institute's committee on atomic power.

These challenges arise in five principal areas, Mr. Lindseth pointed out, including public opinion, the elimination of fuel cost differentials between various parts of the nation, power system engineering and economics, financing, and man-power needs.

"The concept of atomic power has caught the public imagination, and in so doing it has led to a great deal of confusion," the utility president said. Among the "common fallacies" current, he cited

the belief that nuclear power will some day be as "free as air," that abundant cheap nuclear power is "just around the corner," and that the government could do a better job of our nuclear power program.

"The American people must have a complete knowledge of what we are doing, and what we intend to do, and why," Lindseth said. "And to provide them with that knowledge, we must be prepared to devote more time, more attention, and more money than ever before."

"THE ultimate elimination of fuel cost differentials between areas of the country" will be a "second major impact of fully competitive nuclear power," Mr. Lindseth said. "As the cost of nuclear power is progressively reduced, it will become competitive first in high fuel cost areas. Eventually, although it may be a number of years later, it will be competitive everywhere.

"This single fact is, of course, going to cause a major shift in the economic and industrial geography of the United States," he emphasized. Such industries as basic metals, alloys, and electrochemicals will no longer be restricted to the low fuel cost areas of today, Lindseth said. "Determining factors in their location will be chiefly markets, raw materials, labor force, and available sites."

He noted that this would bring "hitherto unknown opportunities to a lot of power companies in their area development programs," with fuel-poor areas having new advantages for industrial prospects and providing nation-wide competition to fuel-rich areas which now have advantages built on lower generating costs.

In power system engineering and economics, where a third important impact of competitive nuclear power will appear, Lindseth said that locations of power

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plants will be controlled by sites, proximity to load, and availability of condensing water. "These nuclear power plants, with no attendant air pollution problems, fuel delivery problems, or coal piles, will have a higher degree of acceptance by the public in large urban areas."

He also indicated that competitive nuclear power plants would use generating units two to three times the size of the largest present conventional ones, and that these "supersized nuclear plants," in turn, might lead to multicompany power pools or transmission networks operating at "ultrahigh voltage" of perhaps 500,000 to 600,000 volts.

IN financing, Lindseth pointed out nuclear plants will require higher investment ratios per unit output than today's fossil-fueled plants, and that the likelihood of early obsolescence will require more adequate depreciation charges. The impact of the financial factors will make it necessary to improve the electric industry's earnings position, "and the form and level of our rate structures will have to be very closely scrutinized and adjusted."

Lindseth pointed out that there are 27 nuclear power projects now under way, including three in operation, six under construction or contracted for, six more in the planning or development stages, and 12 research, development, and study projects, "some of which will no doubt lead to the construction of additional plants." Participating in the projects are a total of 123 utility companies.

"By the end of this year, the industry will have spent about \$140 million on this program. Next year the investment will be increased by another \$100 million. All told, projects currently under way add up to more than \$520 million, and look toward nuclear generating capacity of 1.5 million kilowatts," Lindseth stated.

THIS has come about in less than four years, since the passage of the Atomic Energy Act, which first permitted electric companies to build and own facilities for civilian development of nuclear power, he noted.

"In this program, we have had the invaluable co-operation and participation of equipment manufacturers, other American industries, the Congress, and the U. S. Atomic Energy Commission."

He stressed that the real value of this nuclear power program is not measured in dollars or kilowatts, impressive though the figures are. Britain and Russia, for example, can also point to substantial investment and electrical output. But these programs are entirely governmental, and quantity oriented, Lindseth said. "That is, they are aimed at producing power in large amounts by whatever atomic method has proven feasible today, no matter whether that method offers ultimate promise for the future or not."

Because America can produce all the power it can use more cheaply with conventional fuels, we do not need atomic kilowatts right now, Lindseth said. "Thus our program can be quality oriented rather than quantity oriented. And so, by concentrating on research and development of a variety of reactor types, we have built up a broad-based, diversified nuclear power program—one that will yield richer dividends of information, know-how, and experience than will a program dedicated to kilowatts alone."

ADAMIRAL Ben Moreell, chairman of the board of the Jones & Laughlin Steel Corporation, told the utility leaders that the United States is on a "suicidal" course to slavery because "in recent decades we have been yielding to government our individual responsibility."

However, Admiral Moreell said, "there

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is a way out—provided we are willing to pay the price of redemption.”

To combat what he called “this uneasy drift toward collectivism,” Admiral Moreell proposed “ending all further raids on the public treasury—whether conducted by unions, businessmen, farmers, or any other group.”

He said that “an orderly demobilization of the bureaucracy” must be undertaken at once and that as many powers of government as possible should be returned to the states.

“Let us resolve that never again will we yield to the seduction of the government panderer who comes to us offering gifts paid for with our own money, in return for a surrender of our natural rights,” he said. “Let us hold high before our eyes the banner of individual moral responsibility.”

“It has been said that the people never give up their liberties except under some delusion. We have been losing our liberties under the delusion that government has some competence in the realm of economics, some magic multiplier of wealth, some sort of access to a fourth dimension from which economic goods may be had without working, but only for the voting.”

ADMIRAL Moreell asserted that “there is no evidence in history or logic that government, which, after all, is operated by ordinary mortals like you and me, not by gods or supermen, has either the power, the intelligence, or the wherewithal to generate a perpetual boom or prevent depressions. Government can delay or accelerate economic processes by its interventions; but it cannot suspend the operation of economic laws. We may choose to ignore natural law, but the consequences of our ignorance have a way of catching up with us.” He explained:

The tendency of the American busi-

ness manager, in common with citizens in other walks of life, is to be complacent about the advance of what might be called piecemeal Socialism—political intrusion that does not encroach upon what he conceives to be his own territory. We tend to be apathetic about the general socialistic drift. In many instances we actively support socialistic measures under the guise of promoting prosperity or “developing the community.” But we should now be aware that what threatens to engulf us is total state Socialism. Leaders in business, and all others in a position to influence public opinion, have a duty to actively oppose Socialism wherever it appears, because Socialism is ancient tyranny under a modern disguise—even though it has enlisted some misguided idealism in its behalf.

If the promise of America is to be redeemed, we must oppose state Socialism on every level—philosophical and spiritual as well as economic and political. If our sole concern is merely that aspect of Socialism which directly confronts our own company, or our own industry, or our own community, we may contribute to the advance of Socialism on other fronts by our neglect, if not by our positive actions.

“We should not flatter Communism by imitating any of its features,” he said. “As a citadel of liberty, America is, in Lincoln’s phrase, ‘the last best hope of the earth.’ We are only as strong as we are free.”

IN charging the federal government with “political elephantiasis,” Admiral Moreell cited statistics compiled by the second Hoover Commission. “In 1910,” he said, “the federal government cost the average American family \$38 per year; in 1955 it was \$1,600, an increase of 4,200

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per cent in costs while the population was increasing only 81 per cent. During this same period the federal debt grew from slightly over \$1 billion to \$275 billion—and the federal payroll (civilians only) from 384,000 to 2,362,000. At the same time the federal budget grew from \$639 million to \$65 billion, an increase of about 1,000 per cent.

"In 1916, the tax collections of the federal government amounted to only 23 per cent of the total tax take, state taxes being 12 per cent and local taxes 65 per cent. By 1954 the process of centralization in Washington had progressed so far that the figures were federal 74 per cent, state 13 per cent, and local 13 per cent."

"ONLY with the support of an informed public and of sound, well-qualified regulation can the predicted gains" of the electric power industry become reality, Alan S. Boyd, chairman of the Florida Railroad and Public Utilities Commission, stated in his address to the convention.

Pointing out that he supports investor ownership of electric utilities under sound regulation, Boyd said that "the basic objection to public power stems from the fact power is a basic industry. Control of the power industry would mean control of our modern existence."

"This has been established conclusively by all authoritarian governments in modern times," the Florida commissioner said. He emphasized that government ownership of power "on a grand scale would mean a complete change in our way of life."

"Not only would existing tax structures be inadequate, but it would require a most sanguine individual to feel that such a condition could occur without ultimate nationalization of all other major fields of private endeavor," he stated.

He called on the electric companies to inform the public about their rôle in power supply, emphasizing that "an affirmative factual program to educate the public to the value and advantages of investor-owned utilities is a legitimate business object and should be so treated. A negative attack on a competitor does not warrant the same consideration."

"Efficient management and cost-saving practices are expected of the utilities" and the savings derived must be passed back to the consumer, Boyd said. "All sound and reasonable rates of return allowed by regulatory agencies provide for adequate dividends on equity capital with additional sums for transfer to surplus. These stable earnings are the most that can be anticipated by the investor."

To give incentive to cost reduction, the commission chairman said that "efficient management should be well and liberally rewarded by utility owners and such rewards approved by regulation." He noted that this will help in recruiting the "outstanding young men for executive training" which the industry needs.

"Regulation must realize this and cooperate wholeheartedly by allowing the utilities free rein in setting attractive salaries and providing liberal fringe benefits. If the electric power industry is to remain in large part investor-owned, the best brains available must be brought into the industry," he stated.

A problem of the utility industry is that "regulatory agencies are by their nature 'second guessers,'" Boyd pointed out. "The regulatory agencies must become more of a positive force by anticipating problems and providing policy solutions so as to establish guideposts for the industry before it makes a wrong turn."

Inflation was cited by the commissioner as a problem with which regulation must

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come to grips. "Stable earnings for the investor must be based on present purchasing power of the dollar. Attrition, economic depreciation, or whatever term is utilized to define the effect of inflation on the purchasing power of the dollar must be considered in rate making, if we are to be equitable in our treatment of the investor."

"The problem can be simplified if we acknowledge that inflation is here to stay rather than attempting to find solutions based on the theory that inflation represents a temporary maladjustment in our economy," Boyd commented.

AMERICAN independence is faced with the "double-edged threat" of Socialist Russia and of "those who believe this nation should adopt its own version of Socialism," Senator Styles Bridges, senior U. S. Senator from New Hampshire, warned the electric utility leaders.

"What makes our problem more difficult," he said, "is the fuzzy-minded liberal who thinks he is advancing the cause of humanity when he advocates more and more paternalistic government, when he votes for government controls, or when he votes for government to manufacture one of his basic needs."

The electric industry, the Senator said, "is the first target of the government ownership advocates. The implications of the various drives in this connection, however, spell trouble for our whole free enterprise system."

The Tennessee Valley Authority, he said, started out "primarily as a flood-control and navigation project" and "has become the largest single power-producing agency in the country. Government investment in power facilities derived from appropriations totals nearly \$1.2 billion, after repayment of \$175 million to the Treasury."

He cited the TVA revenue bond proposal as an example of the danger confronting the nation. The proposal, he said, would bring "the establishment of state Capitalism." He went on to explain that "this state Capitalism obviously sets up a precedent for similar organizations in the Pacific Northwest, the Missouri river basin, the Southwest, and who knows where eventually. These state corporations first will engulf your industry and with the pattern well established will be used for gas, oil, steel, coal, and no doubt many others." He said:

The revenue bond proposal is unsound in principle, but if it is adopted for the TVA there should at least be provision for these safeguards: (1) clearly defined area limitations keeping TVA's service area where it now is; (2) maintenance of control by Congress and executive agencies over the issuance of bonds by TVA; (3) full recovery of present and future federal investment plus actual interest cost and adequate payments in lieu of taxes instead of the present token payments; (4) an end to the sole supplier clause of TVA contracts which prohibit TVA customers from seeking power from any other source.

But, regardless of safeguards, the revenue bond arrangement is still bad government. It opens the way for a series of free-wheeling government corporations, out from under the watchful eyes of Congress, free to raise their own money, and very likely to become drunk with their own power.

SENATOR Bridges commented that "well-fare state advocates" have revealed their motives clearly in the field of atomic energy. "Our hydroelectric potential—at least, that which is economically justifiable—is almost exhausted. The atom, there-

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fore, represented to them a heaven-sent opportunity to branch out in a new direction."

Congress, he said, "has managed to blunt this attack for the time being, and it is well that we have been able to do so. I shudder to think of the bill that would have been run up by now and to which future generations of American taxpayers would have been committed if we had undertaken the proposed program of atomic power plants which could have produced power only at from three to six times the cost of conventional power."

ELECTRIC co-operatives formed under the Rural Electrification Act, he said, "have made a real contribution to the advancement of rural life." But, the Senator added, "the REA co-ops are now turning to new fields which have nothing to do with the original concept of REA. Already the income of co-ops is more than 50 per cent from nonfarm customers such as industry, commerce, and nonfarm residential."

"Bear in mind that this electricity is being supplied with the aid of federal loans at 2 per cent interest. The electric co-op, therefore, is in a favorable position to undersell your companies in going after this nonfarm business."

"Your companies," he said, "have repeatedly been attacked as 'profit companies' and as monopolies. At the same time, the co-op is held up as representing authentic free enterprise."

"This attack on the profit motive is disturbing for the profit motive has been the force in our lives, our system, our history, always at work pushing this country to an ever-higher state of development."

In addition to TVA, REA, and atomic energy, Senator Bridges said, "we also see a steady process of attrition on your industry by other legislation."

THE Senator noted that "during the past five months the federal power supporters have advanced a new argument."

They say that the Soviet Union is adding kilowatts at a greater rate than the United States.

"We have no power shortage in the United States," he said. "If we decide we need more power for military objectives, we can install it through our tried and proven channels of free enterprise. But you know and I know that this is not what many are thinking. They want more federal power projects to provide more power for those privileged Americans who benefit from the preference clause. And, the larger this privileged class grows, the more difficult it is for you to fight back."

Senator Bridges noted that "in these United States we see a federal bureaucracy growing to tremendous proportions," and went on to point out that "today, 37,817,000 citizens are receiving some form of payment from the federal government."

"When we include dependents, probably one-half of the population of the United States is receiving directly or benefiting indirectly from some sort of payments from the federal government."

"The extent of direct federal aid to individuals, in my judgment, gives real cause for concern. It indicates continuing centralization of government in Washington, with correspondingly less control by individuals over their own destinies."

As one example of government expansion, Senator Bridges pointed to the field of public housing. "Under the Public Housing Administration, we have something like 900 local authorities administering low rent public dwelling units. During this session of Congress, we passed another housing bill costing the country \$1.95 billion in housing funds."

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"Federal expansion in housing has come in spite of the fact that members of the real estate and building materials industries say that public housing not only is costly to the taxpayer who puts up the subsidy but that the original construction costs are higher than they would be if the projects were sponsored by private groups."

"What could represent less freedom," he said, "less privacy, than the process through which an applicant must go to qualify for residency in public housing. Investigation of his credit, his job, his living manners, his tax records, the size of his family, and his income."

SENATOR Bridges said that in May, 1956, the Budget Bureau "revealed the astounding information that the federal government owned 19,711 business-type facilities which it operated or contracted with private parties to operate. The total federal investment was \$11.6 billion. This is production only for use by the government itself and not for sale to the public. In yet other fields, such as electric power

production, it competes by sale to the public."

He said that "the use of tax money by the federal government for activities which compete directly with its own taxpayers is indefensible."

"In my book, that is Socialism, and though it is a hard word to some, let's have the courage to face it," Senator Bridges said.

THE EEI convention adjourned after the installation of its new president, J. E. Corette, president and general manager of the Montana Power Company. Corette had been serving as vice president of the trade association since last December.

Allen S. King, president of Northern States Power Company, was named to succeed Corette as vice president of the institute.

A digest of other speeches at the recent Boston convention of the Edison Electric Institute will be continued in this department in the next (July 17th) issue of this magazine.

Centralized Power

"MANY forces work toward the concentration of power at the federal level. It somehow seems easier to impose 'progress' on localities than to wait for them to bring it about themselves.

"Raids on the federal Treasury can be all too readily accomplished by an organized few over the feeble protests of an apathetic majority. With more and more activity centered in the federal government, the relationship between costs and the benefits of government programs becomes obscure. What follows is the voting of public money without having to accept direct local responsibility for higher taxes. I know of no device of government which will lead more quickly to an increase in the number of federal programs than this.

"If this trend continues, the states may be left hollow shells, operating primarily as the field districts of federal departments and dependent upon the federal Treasury for their support."

*—EZRA TAFT BENSON,
Secretary of Agriculture.*



The March of Events

Alabama

Gas Rate Hike Sought

THE Alabama Gas Corporation is seeking a 3 per cent raise in its rates. It has asked that the increase become effective July 15th.

The schedule filed by the company is an entirely new schedule of rates, necessitated by the increases in wages, materials, and other increased costs of doing business.

When Southern Natural Gas Company raised its rates in April, Alabama Gas was permitted to adjust its rates accordingly. But the present request for an increase is the first general rate rise the company has ever asked for.

In terms of what the increases will mean to customers, the residential consumer who uses 30,000 cubic feet of gas each month and pays \$23.01 now, will pay \$24.73—an increase of 7.5 per cent.

California

Utility Tax Test Filed

THE tax assessment methods of the California State Board of Equalization are to be challenged by a suit which has been filed in Contra Costa county superior court by the Pacific Gas and Electric Company on behalf of its subsidiary, the Pinole Light & Power Company.

The suit, if successful, according to company board spokesmen, will cause a multimillion-dollar change in the tax

burden in the state by shifting the tax burden from the utility properties to the common property owners.

The plaintiff seeks a tax refund for the Pinole Company. It charges the state board with deliberately and willfully disregarding local assessment ratios.

This sets up a court test of the contention of many utilities that they are discriminated against because the state assesses their property at 50 per cent of market value.

Florida

Electric Rate Rise OK'd

TAMPA ELECTRIC COMPANY has been given authority to raise its rates by
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the Florida Railroad and Public Utilities Commission. The augmented rates will amount to an annual increase in operating income of about \$1.2 million. Operat-

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ing income was \$5,344,654 for the twelve months ended last September 30th, the period used as the basis for calculating the new rates.

In applying for a rate increase, Tampa Electric asked that it be allowed a return of 7 per cent on a rate base of \$100,251,-

238. In the test period Tampa Electric said it earned only 5.33 per cent on its investment. However, the commission granted a rate designed to give the company a return of 6.74 per cent on its rate base, investment in plant and equipment, of \$97,145,138.

Idaho

Pacific Northwest to Get Hell's Canyon Power

A POOLING agreement has been approved by the Idaho commission to make power from new generating facilities of the Idaho Power Company in the Hell's Canyon area available to consumers throughout the Pacific Northwest. The commission approved a contract between the Idaho Power, Pacific Power & Light Company, and Washington Water Power Company. It will permit transmission of power generated at Brownlee and Oxbow dams on the Snake river throughout the

area covered by the Northwest Power Pool.

Brownlee dam is nearing completion and construction of Oxbow dam is in progress. Idaho Power also has been authorized by the FPC to build a third dam in the Hell's Canyon Northwest Power Pool, involving Oregon, Washington, Idaho, northern Utah, and western stretch of the river along the Idaho-Oregon border. Contract calls for sale of 35 megawatts (millions of watts) of power to Pacific Power & Light and 15 megawatts to Washington Water Power Company.

Maryland

Storm Damage Issue

HEARINGS on a proposed rate increase of \$9,951,000 a year by the Baltimore Gas & Electric Company have ended. But the company has stirred up a new issue by asking the public service commission for at least \$4.5 million more over the next nine years to pay for unusually heavy storm damages sustained in 1958.

This new issue has to be settled before the original application for a rate rise can

be resolved. In the eyes of the public service commission it would be desirable to establish a reserve fund for future emergencies, but it is chary of the idea that customers should be required to pay for past storm damage. It fears such an action would establish new concepts in regulatory thinking. Counsel for the commission said he would oppose inclusion of the storm damage in the present rate case and urge that it be treated as a new application.

Missouri

Time Limit on Fare Boost

THE St. Louis Public Service Company of Missouri was granted its twelfth fare rise since 1946. A five-cent boost from its basic 20-cent rate would become

effective June 29th. The old rate will still be effective during 9 A.M. to 3 P.M. shopping hours. The 25-cent rate will be in effect on Sundays and eighteen hours a day, including the morning and evening

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rush periods, Mondays through Saturdays.

Tokens will be sold at four for 90 cents and a new student pass system will go into effect. The public service commission said that increases in the company's operating costs, coupled with a decline in

customers, made it unlikely that the transit company could render adequate service without an increase in its fares.

The 1957 earnings of the St. Louis Public Service Company were substantially less than what is considered fair and reasonable.

New Hampshire

Higher Electric Rates Sought

THE Public Service Company of New Hampshire and its wholly owned subsidiary, New Hampshire Electric Company, recently filed proposed new rates with the public utilities commission. These new rates, if approved, would increase minimum monthly billings for domestic customers from \$1.80 to \$1.85 per month.

Based on 1957 sales, the rates would

yield \$664,500 of additional revenue. The overall increase proposed in the new rates approximates 2.3 per cent.

The company's president, Avery R. Schiller, said the new rate rise is partly due to the franchise tax which the New Hampshire legislature passed. The rest of the increase is due to the larger amount that must be paid for salaries and materials.

New York

Niagara Seeks \$10.4 Million Increase

THE Niagara Mohawk Power Corporation wants to increase electricity rates throughout its system by \$10,452,000 a year, effective July 3rd.

Increases to residential and farm users would range from 25 to 29 cents a month in the eastern and central divisions, and from 25 to 69 cents a month in the western division. Industrial and commercial users would also pay up to 29 cents more in the eastern and central sectors. Rate in-

creases for these consumers in the western division would vary more because of the number of large industrial users in that sector.

Niagara Mohawk filed its proposal with the public service commission and the higher rates will become effective automatically unless the commission suspends the plan and conducts public hearings on it. The company claims its rate of return is below the level needed to assure a high standard of service and to attract capital for its huge construction program.

Ohio

Electric Rate Boost Studied

LEE C. HOWLEY, vice president and general counsel of the Cleveland Electric Illuminating Company, told Cleveland city council committees that the company could not revise its application for a rate increase downward, but it might have to revise it upward.

He said the company was earning a return of only 1.73 per cent.

The Cleveland utility wants its new rate schedule to start September 22nd with a five-year contract with the city. The same request for a rate increase has been filed with the state public utilities commission covering company territory outside of Cleveland.



Progress of Regulation

Trends and Topics

Dividend Restriction as Condition of Rate Increase

AUTHORIZATION of rate increases is often made subject to conditions, although the power to impose a condition may be limited by the extent of jurisdiction over the subject matter of the condition. A commission lacking authority to restrict dividends, for example, may not have authority to include a dividend restriction in a rate order. A recent rate order of the Wisconsin commission contained such a condition, but apparently its authority was not questioned.

Restrictions Imposed in Wisconsin

The Wisconsin commission authorized the Turtle Lake Telephone Company to increase rates but imposed the condition that payment of common stock dividends should be restricted until the common stock equity is increased to 40 per cent. A large amount had been borrowed for rehabilitation of plant and to convert to automatic service. The common stock equity amounted to only 9.1 per cent of total capitalization, and while the return would be only 2.81 per cent on the rate base the return on common stock equity would be 30.4 per cent (22 PUR3d 458).

Last year the Wisconsin commission took the same action in authorizing a rate increase for Mosinee Telephone Company. Cash dividend payments were restricted to not more than 6 per cent annually on common stock outstanding at the time of the order until such time as the common stock equity should be increased to 40 per cent of total capitalization. The allowance of a normal rate of return on the rate base would result in a 28 per cent return on equity because of a high debt ratio (21 PUR3d 314).

The commission referred to the fact that the question of dilution of common stock equity had been considered in the Thorp Telephone Company case (18 PUR3d 194). In that case it was noted that the dilution of equity was made possible by a policy of the Rural Electrification Administration designed to encourage improvement of telephone service in rural areas and small villages. The management of the utility, by virtue of diluting its equity from 53.1 per

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cent down to 13.6 per cent of total capitalization, and by investing borrowed funds in automatic equipment to effect operating economies, had increased the dollar amount available to stockholders, and the amount available would be further increased after an approved rate increase.

Other Views on Dividend Restriction

The North Carolina commission, in 1934, adopted a general order relating to security issues, dividend declarations, and other matters. The commission prohibited companies from using any part of corporate surplus in the payment of dividends except after receiving authority from the commission. It also forbade any utility with indebtedness, except for current expenses, to declare dividends in any amount in excess of the net income and in no event in excess of 6 per cent (3 PUR NS 132).

An electric company had a charter restriction on the payment of common stock dividends when the common stock equity was less than 25 per cent of total capitalization. The Florida commission authorized the company to include a restricted surplus, set aside to normalize the effect of accelerated amortization of defense facilities, as part of its capital equity in the determination of capital ratios. This was subject, however, to a provision that no part of the restricted surplus could be used for the payment of dividends (4 PUR3d 91).

The Utah commission, in authorizing an increase in transit fares for a company having a high debt ratio, and paying 87 per cent of earnings in dividends, while comparable companies were paying 56 per cent, restricted the company to the payment of dividends not exceeding 56 per cent of earnings until such time as its debt ratio should be reduced to 35 per cent debt and 65 per cent equity (78 PUR NS 1).

The same commission later, in discussing a complaint against the management of an electric company, said that it had no authority to require the boards of directors to authorize the payment of a dividend but it has power to review each dividend declaration. If the commission finds that payment of a common stock dividend will impair the capital of the utility or impair the service it is rendering, the commission may issue an order directing the utility to refrain from payment of the dividend until such impairment is avoided (13 PUR3d 137, 143).

Denial of Power to Restrict Dividend

The Ohio supreme court ruled that the commission had no authority to require a utility company to secure its approval to declare and pay dividends out of earned surplus. The commission had approved certain rates but provided that no dividends were to be declared or paid without its approval. The court referred to an earlier decision (2 PUR NS 465) where it was ruled that the commission had power to prohibit payment of dividends and unwarranted fees and service charges to holding companies when there were neither earnings nor surpluses from which such payments might properly be paid. That case, however, according to the court, was not authority for the action of the commission disclosed in the rate proceeding. This company, with a large earned surplus,

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had paid dividends out of either earnings or surplus. The earlier decision, it was said, was confined to cases where there are neither earnings nor surplus (98 PUR NS 246).

The Alabama commission, in promulgating a general order forbidding declaration of dividends not earned, ruled that it had no jurisdiction to restrain dividend payments by a telephone company organized in another state (PUR-1932E 203).

Review of Current Cases

Full Comparative Hearing Required on Rival Applications under Natural Gas Act

THE United States court of appeals set aside orders of the Federal Power Commission which allowed only a limited comparative hearing on rival applications for certificates under the Natural Gas Act.

Midwestern proposed a pipeline from a connection with Tennessee Gas Transmission Company's system at Portland, Tennessee, to a connection with the system of Trans-Canada Pipe Lines, Limited, at the Canadian border. Midwestern would deliver gas to the shortage areas in northern Illinois-Indiana, now served by the system of Peoples Gas Light & Coke Company, as well as to shortage areas in Wisconsin, Minnesota, western Michigan, and eastern North Dakota. Midwestern proposed to serve all of the areas within economic reach of its line and, "if certificated it will, in the future, in the course of normal growth and development, serve, like all other pipelines and distributors, any available loads for which authorization can be obtained." It has supply contracts with both Tennessee and Trans-Canada for more than 400,000 Mcf of gas per day.

Being informed that the Peoples system would not purchase gas from it, Midwestern filed a supplement to its applica-

tion, naming as customers in the northern Illinois-Indiana area two steel companies to whom direct sales of 115,000 Mcf per day would be made. Obviously, no further specification could be made of proposed sales in the area served by the Peoples system, the court pointed out, in view of the latter's control of the distribution system and its refusal to buy from Midwestern.

Natural, a subsidiary of Peoples, filed an application, supplemented by applications of other companies, for authority to expand facilities and bring an additional 485,000 Mcf of gas into the northern Illinois-Indiana area, including 115,000 Mcf per day to be sold for resale to the two steel companies. The commission ordered so much of the Natural proceeding as related to the provision of gas for the two steel companies to be severed and consolidated for hearing with the Midwestern proceeding.

Mutually Exclusive Area

Midwestern contended that the commission's action unduly limited the area of mutual exclusiveness so as to preclude a comparative hearing on the applications

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as required under the doctrine of *Ashbacker Radio Corp. v. Federal Communications Commission* (1945) 326 US 327, 61 PUR NS 466. The commission thought it clear from the record that the area of exclusiveness was in and near the city of Chicago, involving the sales to the two steel companies.

The court expressed the view that if anything was clear from the record it was that *Midwestern*, though it specifically named only the two steel companies as its prospective customers in *Natural's* service area, proposed to supply gas to every customer in that area within economic reach of its lines. *Peoples* had refused to purchase from *Midwestern*, and *Natural's* other distributors quite naturally would not commit themselves to *Midwestern's* proposal, the court pointed out. But an applicant need not show firm commitments for the sale of natural gas in all cases, the court indicated; it is enough if the applicant shows, on the basis of experience in similar territory, that there are reasonable grounds for anticipating that customers will be attached to the proposed facilities.

A proposal should be construed according to its broad purport, not confined to specific undertakings. The commission, in choosing between a broad construction which would require an overall comparative hearing and a narrow construction which would permit *Natural's* application to be processed unopposed, must be mindful that speed is not the only element in the public interest, said the court. That interest requires also that the public be supplied with adequate service on the best possible terms and conditions. The commission should not adopt constructions and procedures that foreclose full inquiry into broad public interest questions.

The court held that the commission should have treated *Midwestern's* appli-

cation as a proposal to serve generally the northern Illinois-Indiana area. A comparative hearing was therefore required as to the various elements of the *Midwestern* and *Natural* proposals, such as gas supply, economic feasibility, financing, and design of facilities.

Severability

The court expressly disagreed with the commission that *Natural's* proposal to serve the steel companies was severable from the company's application for authority to expand its system. There is no physical severability of facilities to carry the gas proposed for the steel companies from the general system facilities, said the court.

The commission had imposed on the proceeding a stipulation that none of the additional capacity would be used to supply the 115,000 Mcf per day scheduled for the steel companies. Only the question whether the stipulation should be removed was the portion of the *Natural* application consolidated for comparative hearing. This was not an adequate procedure for comparison of the various elements of the applications.

Dissent

Associate Justice Reed, dissenting, thought the commission acted within its discretion in adopting the limited comparative hearing procedure. There was no question of the soundness of the *Ashbacker* doctrine. The controversy related to the facts and the applicability of the doctrine. The justice interpreted *Midwestern* as seeking certification only for the steel companies, with but vague suggestions that once in the area it may in the indefinite future ask a wider authority. Courts should be slow to interfere with routine interlocutory proceedings of ad-

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ministrative agencies, he said. *Midwestern Gas Transmission Co. et al. v. Fed-*

eral Power Commission, No. 13954, May 13, 1958.



Commission Disallows Tax Normalization In Rate Proceeding

THE West Virginia commission, in authorizing a gas company increased rates which would produce a return of 6.25 per cent, found that the proper amount to be allowed in the cost of service for income tax was the amount actually paid to the federal government. The company was using a declining balance method of computing depreciation for income tax purposes.

If the tax rate should be increased in the future, pointed out the commission, the reserve which the company has established through its proposed method would be insufficient to cover the additional taxes brought about by the increase. If the tax rate is decreased, the company would reap a benefit because there would be more money available in the reserve than would be necessary for payment of future taxes. The company had the option in computing its income tax of using the declining balance method. If it chose to do so, the commission did not believe it would be wise to make its calculations on the basis of a fiction that a certain amount of income tax was being paid when actually the amount to be paid was lower.

Dissenting Opinion

Commissioner Kauffelt dissented. The method followed by the majority, said the commissioner, would benefit neither the customer nor the company in the long run. He believed normalization and the establishment of a reserve would benefit both. Upon receiving the order, claimed the commissioner, the company would undoubtedly cease using accelerated depre-

ciation in the calculation of income tax. The company would then be entitled to return for rate relief because of the increase in federal income taxes. This would place the customers in exactly the position they would be in should the commission have allowed normalization, with one exception.

The one exception was that the customers would not receive the benefit of the interest-free capital that would be available to the company. The benefit would be derived from the commission's taking into account the interest-free capital in calculating the rate of return to which the company would be entitled upon its rate base.

The commissioner believed it would have been the better course for the commission to have allowed, as an expense, the normal tax which the company would pay were it not using accelerated depreciation. The company would be required to establish a reserve account in which the difference between the taxes actually paid and the taxes which would normally be paid could be recorded. This money would be available for the performance of construction work and other uses. The company, however, would not be permitted to pay dividends from this reserve.

Miscellaneous Considerations

An allowance for cash working capital was excluded from the rate base since federal income tax accruals were sufficient to offset the item.

The commission refused to eliminate the cost of a thrift plan from the com-

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pany's cost of service. Payments made by the company under the plan, pointed out the commission, are a recognized manner of providing compensation for employees. The plan was not such an unusual method of compensating employees or so unreasonable as to authorize the commission to decline to consider it as an expense.

Amounts carried in "Construction Work in Progress" were excluded from the rate base, except for amounts relating

to construction completed during the test period but not transferred to "Plant Account" within that period because of normal bookkeeping operations.

The company was required to refund to customers, with interest at 6 per cent per annum, the difference between the rates placed in effect prior to the hearing, and the rates thereafter established by the commission. *Re Hope Nat. Gas Co. Case No. 4545, April 18, 1958.*



Court Sets Aside FPC Order Allowing Filing of Invalid State Minimum Gas Price in Excess of Contract Rate

A FEDERAL court of appeals set aside an order of the Federal Power Commission accepting for filing as the effective rate of Magnolia Petroleum Company an order of the Kansas commission which fixed a minimum price of 11 cents per Mcf for gas produced in Kansas. The court directed the commission to strike the Kansas order from its files.

The filed contract price agreed upon by Magnolia and the petitioner, Cities Service Gas Company, was only 6 cents. In a separate proceeding, Cities Service obtained a United States Supreme Court decision invalidating the state-imposed price. However, at the time of the filing the supreme court of Kansas had upheld the authority of the state commission to fix a minimum price, even though the gas was to be purchased for sale in interstate commerce.

Reviewability of Order for Filing

Cities Service contended that the commission erred in accepting the state-imposed minimum price as the rate to be paid by Cities Service from June 7, 1954, and that the United States Supreme Court decision rendered the state commission's minimum price order void from

its inception. The petitioner urged that the contract price of 6 cents should be adjudicated as the effective rate from June 7, 1954.

Magnolia claimed that 11 cents was the legally effective rate from the time it was accepted for filing until it was invalidated by the Supreme Court. Magnolia and the Federal Power Commission insisted that the latter's order accepting the minimum price was merely procedural and interlocutory and not subject to review.

Section 19 (b) of the Natural Gas Act does not by its terms limit the review of orders of the commission to those which are final in form and substance, the court noted. Although courts will not interfere in matters yet within the consideration of the commission, no inflexible standard has been established requiring a conventional hearing with resultant findings supported by evidence as a condition precedent to review of a commission order. Otherwise, review could be circumvented by a refusal to act upon a statutory right.

An order of an administrative body is reviewable when action taken in advance of hearings or adjudication results in the setting of legal consequences. It is final

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for review purposes when it imposes an obligation, denies a right, or fixes some legal relationship as a consummation of the administrative process.

That Cities Service was not aggrieved by the commission's action is most unrealistic, the court declared. The company was wrongfully required to pay 11 cents per Mcf for gas. Since its complaint lay in the action of the commission in accepting a rate schedule which was not the effective rate on the critical date, it could not and need not pursue the administrative remedy under § 5 of the act to show that the accepted rate was unjust and unreasonable.

Contract Rate Remains

If the Kansas minimum price order had been valid, it would undoubtedly have altered the 6-cent contract. Cities Service paid the ordered rate under protest. It then secured a decision invalidating the state order. This left the company in no worse position, the court reasoned, than the consumer in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.* (12 PUR3d 112), which was aggrieved by

the filing of a unilateral rate increase initiated by its producer. The Natural Gas Act recognizes the rights of the parties to set rates by individual contract and abrogates none of the usual contract rights except for the review power granted the commission upon hearing, it was noted.

The Federal Power Commission conducted no hearing to determine the propriety of the state-imposed minimum price. Therefore, when the Supreme Court invalidated the Kansas order, there was no longer a valid order which could modify the contract rate, and the contract rate was the effective rate on June 7, 1954.

All provisions of the contract were expressly made subject to any order of authorities having jurisdiction *unless* such order were held invalid. Magnolia claimed that Cities Service thereby agreed to abide by any such order *until* it became invalid. To so interpret the contract would require a strained construction and a substitution of the word "until" for "unless," the court observed. *Cities Service Gas Co. v. Federal Power Commission*, No. 5666, May 14, 1958.



Rate Determination in Gas Certificate Proceeding Discretionary with FPC

THE United States court of appeals ruled that the Federal Power Commission did not abuse its discretion in granting certificates for a pipeline project under § 7 (e) of the Natural Gas Act without imposing a rate condition or determining the reasonableness of a proposed rate to be paid to producer-suppliers. The commission granted a certificate to Natural Gas Pipeline Company of America, which serves the Chicago area, to extend its pipeline from Fritch, Texas, through southern Oklahoma to Wise

county in Texas where it will purchase 78,000 Mcf of gas per day from three producers at a contract price of 13.9 cents per Mcf. Certificates were also granted to the producers.

The commission had refused requests of gas utility interveners to impose a rate condition to reduce the 13.9-cent contract price to 11 cents per Mcf, the alleged prevailing price in the Wise county area. The commission did expressly provide, however, that its certificate order would not foreclose or prejudice any future proceed-

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ing relating to the rates of the applicants.

Section 7 (e) gives the commission authority to issue a certificate to any qualified applicant if it finds that the applicant is able and willing properly to perform the proposed service and that such service will be required by the public convenience and necessity. The section also authorizes the imposition of conditions.

Oklahoma Natural Gas Company, petitioning for review, contended that the commission erred in granting the certificates to the producers without imposing a price condition because the proposed price exceeded that in southern Oklahoma, and because the commission did not make a finding that the rate was "just and reasonable," as provided in § 4(a). It was asserted that the prohibition of § 4(a) against sales that are not just and reasonable is all inclusive and pervades the entire act. Section 4(a) applies, it was said, to all sales, including a sale as soon as it is commenced. Oklahoma urged that the 13.9-cent contract price would result in increased cost to competing utilities by causing an unwarranted advance in the prevailing price in the production area.

The court indicated that Natural's price of 13.9 cents was "in line" with the prices for gas in relevant areas. It noted that a dominant factor in this case was the growing need for more gas in the Chicago area.

Discretion As to Rate Condition

The plain meaning of § 7(e) giving the commission power to attach reasonable conditions, said the court, is to vest the commission with discretion to attach terms, including rate conditions. In the absence of an abuse of that discretion, courts should not interfere. The court found no such abuse in this case.

The court rejected a contention by Oklahoma that the commission must either impose a price condition or determine the reasonableness of the price, as in a proceeding under §§ 4 or 5, where the price being paid by a producer is above that paid by others in the area. The commission is not thus deprived of its discretion. Section 4(a) states the substantive objective of the act that rates be reasonable; it does not specify the procedure by which this objective is to be attained. That procedure is prescribed by §§ 4(d), 4(e), and 5(a). The commission cannot be required to convert every certificate proceeding into a rate proceeding, the court declared. Furthermore, rates are subject to the continuing supervision of the commission and may be considered in appropriate rate proceedings.

Rate Determination Required—Dissent

Noting that the rate feature is a vital element in the public convenience and necessity prerequisite to certification, Judge Bazelon, dissenting, held that the commission could not certify new services without determining in the certificate proceeding that the proposed rates are just and reasonable, unless it imposed a rate condition. He observed that the protection afforded the consumer by the suspension and refund provisions of § 4(e) applies only to situations where the company files a new rate schedule changing an existing rate. It does not apply to the filing of an initial rate such as is involved here.

While an improper initial rate may be attacked under § 5(a), proceedings under that authority are notoriously long and complicated and no provision is made for even temporary suspension or for refund of excessive collections. Thus, in a certificate proceeding, the public interest in

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reasonable rates must be protected under § 7(e).

Although parity with field price may not alone be sufficient for a determination of justness and reasonableness of a rate, said the judge, a substantial disparity with field price is a sufficiently reliable index of unreasonableness of a rate to preclude certification in the absence of a

rate determination. Judge Bazelon calculated a difference of 4.3 cents to 6.55 cents between the producer-suppliers' price and the prevailing price in the Wise county area. He considered this a very substantial disparity for the commission to have disregarded. *Oklahoma Nat. Gas Co. v. Federal Power Commission*, No. 13,783, May 22, 1958.



Discontinuance of Railroad Passenger Service Upheld

THE supreme court of Kansas affirmed a trial court's judgment setting aside a commission order denying authority to discontinue passenger service between Atchison and Topeka. Revenue from passenger service on this branch line, less than 50 miles in length, was insufficient to meet even the wages of the train crew. The average number of passengers per train mile was only slightly higher than the number of crew men needed to operate the train. It was the commission's duty to authorize discontinuance of service notwithstanding there is no alternative public passenger service even in the absence of an offer of substitute service by the railroad, according to the court.

The court said that passenger trains are operated primarily for the carriage of passengers, and if the public abandons

these trains there is no duty or obligation to continue their operation at a substantial loss.

In a proceeding to discontinue certain trains the revenue, expenses, and losses shown in their operation have a direct bearing upon whether or not public convenience and necessity require their continued operation.

A sound test to follow, said the court, is whether the expenses which will be eliminated by discontinuance of the passenger service have exceeded to such an extent revenue which will be similarly eliminated, that the resulting net saving to the railroad will further the public good in greater measure than the loss of passenger service will impair it. *Atchison, T. & S. F. R. Co. v. Kansas State Corp. Commission*, 322 P2d 715.



Hydroelectric Licenses Normally of 50-year Duration

THE Federal Power Commission ruled on the question of the duration of licenses issued for hydroelectric projects under the Federal Power Act. The ruling was made in consolidated proceedings on applications by Carolina Aluminum Company and Carolina Power & Light Company for licenses for projects on the Yadkin-Pee Dee river in North Carolina.

Part of the developments had already been constructed.

Under § 6 of the act, the commission is authorized to issue licenses "for a period not exceeding fifty years." It was contemplated that as a general rule licenses would be issued for the full 50-year period. While the full fifty years is not mandatory, the exercise of administrative

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judgment in fixing a shorter period must have a rational basis in the evidence.

Back Dating License for Trespass

The principal reason given by the commission in the past for back dating licenses is that the project has been in trespass from the time of its construction in a navigable water of the United States. But the commission observed that the word "trespass" could not properly be used in connection with the occupancy of such water.

The interest of the United States in the flow of a navigable stream originates in the Commerce Clause of the Constitution, and that clause speaks in terms of power, not property. Therefore, said the commission, there is no basis for holding that a license for a constructed project affecting navigable waters must be made effective from the date of the construction on the ground that the project has been in trespass. Neither is there any basis in the Federal Power Act for holding that a license for a constructed project should be back dated on the ground that it was unlawful for the project to occupy a navigable water of the United States prior to an authoritative determination as to the

navigability of the stream, the commission stated. Only upon amendment of § 23 of the act in 1935 did it become unlawful to construct project works without having first obtained a license or a determination that a license was not required.

Projects Not in Trespass

There has been no determination that the stretch of the Yadkin-Pee Dee river in which the projects are located is a navigable water of the United States. However, the facts in these proceedings indicated that the developments would affect navigable capacity downstream.

There is no basis in the act, said the commission, for holding that these developments, which were constructed prior to the 1935 amendments, have been operated unlawfully or in trespass against the United States, even if the stretch of river in which they are situated should later be declared navigable federal water. The commission therefore held that it had no authority to back date the licenses or to issue them for a term of less than fifty years since there was no rational basis for such action. *Re Carolina Aluminum Co. et al. Opinion No. 312, Project No. 2197 et al. May 19, 1958.*



Limited Rate Increase to Offset Wage Increase Arbitrary

THE Nebraska supreme court reversed and remanded a commission order which had denied a telephone company only a partial rate increase necessary to cover increased wage costs. The order was determined to be unreasonable and arbitrary.

The court pointed out that the commission, in granting a rate increase, has no authority to fix wage scales or direct expenditures of funds for a particular purpose. While a state may regulate public

utilities with a view to enforcing reasonable rates and charges, it is not the owner of the property of public utility companies, and is not clothed with the general power of management incident to ownership.

The commission has the duty to give full, adequate, and fair consideration to the claims of an applicant for a rate increase, and the applicant has the right to require that such be done. A utility is entitled to rates that may normally be

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expected to yield a fair return upon the reasonable value of the property being used for the public convenience.

The commission order, authorizing a limited rate increase, in effect, was an order fixing wage scales at the proposed rates set out in the company's evidence as a foundation of its need for additional revenue, pointed out the court. It, in

effect, directed the payment of the wage scale. The commission had allowed a rate increase sufficient to meet additional costs necessitated by wage increases, and had marked the funds to be used for that purpose only. In doing so, held the court, it had invaded the province of management. *Re Skeedee Independent Teleph. Co.* 87 NW2d 715.



Special Gas Installation Charges for Homes Having Electric Ranges Authorized

IN an interim opinion the California commission authorized Southern California Gas Company and Southern Counties Gas Company to make additional charges for service extensions to real estate subdivisions and multiple housing developments of ten or more units where two rather than three uses of gas are contemplated. The companies had proposed an additional flat charge of \$55 per home.

Southern California Edison Company, an electric company, had asked the commission to prevent that action, claiming that it was inequitable and that it tended to penalize builders who preferred to install electric ranges rather than gas ranges in new homes. Furthermore, it claimed, this would deny free choice by the builder and home owner as to the type of fuel to be used for cooking purposes.

Gas Company Arguments

The gas companies took the position that their rates were based upon the presumption of three uses of gas by the average home owner: space heating, water heating, and cooking. The free footage allowances in their present extension rules were predicated on such three uses. They claimed that the special charge was in principle only a reduction in the free foot-

age allowance to offset the reduction in revenue under what might be expected if gas were used for cooking.

In the case of individual residents, or of housing developments of less than ten units, the gas companies were willing to take the risk, feeling that they had a reasonable opportunity, by salesmanship, to persuade the home owner to cook with gas. In the case of larger housing developments, however, they claimed that the subdivider-builder would make the choice, that they might be called upon to extend service into a subdivision in which built-in electric ranges would be standard, and that they would have virtually no chance of acquiring the cooking load and its attendant revenue.

Return Basis for Special Charge

The commission conceded that extension rules predicated on three uses of gas might be too liberal when applied to the two-use customer, and that in such an event the utility's other customers would be adversely affected.

Large subdivisions with built-in kitchen ranges and ovens have come into being only during the period since the second war. No specific reference is made to them in the gas company rules. The commission concluded that an additional ad-

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vance to help defray the cost of an extension is appropriate when the customers contemplate two rather than three uses of gas.

The commission said that the \$55 charge, to this extent, might be justified by the gas companies under their existing rules. There was some evidence, however, that such a flat charge, uniformly applied, has been used as a competitive weapon to discourage the installation of electric ranges; and also that it has resulted in certain inequities in practice. It has been

applied regardless of the cost of an extension or the rate of return to be expected on the required investment.

For the purposes of this interim order the commission did authorize additional advances for service extensions, but it provided that such additional advances should be based on considerations of cost, estimated revenue, and rate of return for each subdivision, tract, or multiple housing development. *Re California-Oregon Power Co. et al, Decision No. 56627, Case No. 5945, May 6, 1958.*



Holding Company Acquisition of Voting Stock of Electric Company Approved

THE Securities and Exchange Commission authorized Utah Power & Light Company to acquire the voting securities of Telluride Power Company, a nonaffiliated electric company. Utah Power is both a holding company and an electric company. It proposed to retain the acquired stocks and to operate Telluride as a subsidiary in its holding company system.

Utah proposed to pay cash for Telluride's second preferred stock at its redemption price plus accumulated dividends and to exchange its common stock for the common stock of Telluride on the basis of one share of its stock for eleven shares of Telluride stock.

Fairness of Offer

The agreement to acquire the voting stock was entered into with six Telluride stockholders owning about 80 per cent of the stock. These included two educational foundations which wished to be relieved of the responsibility and problems inherent in their ownership of the controlling interest in Telluride. Both companies furnish electric service in Utah and, in addi-

tion, the holding company furnishes 80 per cent of the power distributed by Telluride. The agreement was arrived at after extended arm's-length negotiations.

Earnings and Dividends

The commission compared the consolidated per share earnings and dividends of Utah Power with the earnings and dividends of eleven Telluride shares. On the basis of past earnings alone those applicable to the Telluride stock appeared to exceed by a substantial margin the earnings applicable to the Utah Power stock. The commission said, however, that it was concerned not merely with past earnings as shown by the books but with the quality of such earnings. Past earnings and book values per share are relevant in determining the fairness of an exchange offer only as they furnish a reliable guide to future earnings.

An engineering study indicated that some of the Telluride properties have been inadequately maintained. It indicated that Telluride should spend approximately \$2.5 million during the next five years to eliminate deferred maintenance and re-

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habilitate its system, make normal extensions, and provide for the growing load.

During this 5-year period it would be necessary for Telluride to retain most of its earnings in order to finance the rehabilitation program. In such an event there would probably be a diminution or cessation of common stock dividends. For many years in the past, Telluride has paid common stock dividends at an annual rate of 8 cents per share or 88 cents for eleven shares. Utah Power has paid steadily increasing dividends, the present annual rate being \$1.20 per year.

The commission noted, in view of these facts, that from the point of view of dividends the Telluride stockholders would gain an immediate advantage by accepting the exchange offer. In addition, the acquisition of the Telluride stock would have no appreciable effect upon the current earnings of Utah Power.

A further favorable feature of the Utah Power common stock, according to the commission, was its ready marketability resulting from the fact that it is listed on the New York Stock Exchange, has a widespread distribution, and is actively traded.

Telluride stock on the other hand, was distributed by the company's founder among the company employees, the two educational foundations, and business associates. There are presently only 101 stockholders. There has been no wide distribution at any time, nor any established market price.

Aside from occasional changes of ownership incidental to settlement of the estate of a deceased stockholder, there have been very few transfers of the Telluride stock. The commission concluded that the proposed exchange offer was fair and reasonable both to Utah Power and to the Telluride common stockholders. It also believed that the acquisition of the second

preferred stock at redemption price was fair and reasonable.

Resultant System Capital Structure

The commission noted that Telluride's second preferred stock is subordinate to the first preferred stock as to assets and dividends but is superior as to voting rights. The existence of this security will, therefore, create a complexity in the capital structure of the Utah Power holding company system. Moreover, if less than all of the second preferred stock or of the common stock of Telluride is acquired by Utah Power an inequitable distribution of voting power by reason of the existence of a publicly held minority interest will exist contrary to the standards of § 11(b)(2) of the Holding Company Act.

The commission said that while it need not deny approval of the application because there is no present assurance that all of the stock will be acquired by Utah Power, the correction of any resulting inequitable distribution of voting power is mandatory under the standards of the act. It would, therefore, be required eventually to institute a proceeding looking to the correction of any resulting violation of the act unless within a reasonable period of time Utah Power itself files a plan for this purpose under § 11(e) of the act.

Integration Aspects

Utah Power serves the area immediately north of Telluride's service area. The two systems are already interconnected, Utah Power supplying more than 80 per cent of Telluride's power requirements.

The latter is a small power company unable to finance the requirements for its rehabilitation and growth as effectively and economically as will be possible with

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the assistance of Utah Power. Telluride's service area is largely agricultural, with little industrial development.

Utah Power expects to build a high power transmission line which will be part of the transmission system which it has projected to bring power into its service area from a large hydroelectric project being constructed by the United States Bureau of Reclamation at Glen canyon on the Colorado river in northern Arizona.

With this additional source of energy Utah Power will have abundant power to meet the growing loads of itself and of Telluride for many years. The commission concluded that the proposed acquisition would serve the public interest by tending towards the economical and efficient development of an integrated public utility system. *Re Utah Power & Light Co. File No. 70-3674, Release No. 13748, May 6, 1958.*



Board Assumes Jurisdiction over Land Development Water System

THE New Jersey board ordered a water company to extend service to a real estate subdivision from a water main owned and installed by a builder and developer of residential tracts. The order was issued at the request of another real estate company developing a subdivision between the water company's pump house and the first real estate company's subdivision. The street for which the extension was requested intersected the street along which the main ran. The main had been authorized by the county of Morris, a political subdivision of the state.

Utility Status

The board observed that at first glance it would appear that since the main was not owned by the water company it could neither order an extension of the main nor a tie-in of additional facilities in order to supply new customers. After considering both the letter and intent of the statutory provisions specifying its general jurisdiction and defining public utilities, the board concluded that the real estate company which owned the main fell within the scope of the statute with respect to the operation of the main and the system.

In this instance the main was actually being used for public use under a privilege granted by a subdivision of the state. Thus the board concluded that the company was a public utility subject to its jurisdiction in so far as it owned and operated the water main.

The board held that it could not be said that a plan whereby the facilities owned by a company that is not organized to render utility service but used by public utilities in rendering public service under lease or other agreement is a mere business arrangement which does not bring the owner of the facilities and their use within the scope of its jurisdiction. To so hold would open the door to a method whereby the jurisdiction of the board could be circumvented by the simple means of a lease and contract arrangement and could result in a complete evasion of the statutory requirements as to the board's jurisdiction and regulatory process.

The board believed this would be especially true as to the many water companies now in operation, or being formed, where the water company is often owned by the same persons who own the development company or where there are directors common to both. In fact, it said,

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this method could be invoked by any utility to evade the board's jurisdiction.

Prospective Revenues

The board found that the extension would not impose an unreasonable financial burden on the water company and that it might reasonably be expected that the extension would bear its fair share of the entire return to the utility. In addition, the board noted that the water com-

pany had stated that it was ready and anxious to serve the customers who would be on the main involved in this proceeding.

The company most certainly would have taken a contrary position if it believed that the prospective revenues from the extension would not be adequate. *Stald Realty Co., Inc. v. Mountain View Water Works, Inc. Docket No. 10124, April 29, 1958.*



Hearing on Rate Increase Not Withheld Pending Service Improvement

THE Florida commission refused to issue an order requiring a telephone company to show cause why its service should not be improved before a hearing could be granted on its application for a rate increase. In doing so, however, the commission referred to one of its earlier decisions holding that the quality of service is one of the principal elements to be considered in fixing rates (1 PUR3d 18).

That case had been reversed by the Florida supreme court on the ground that a rate increase may not be denied as a penalty for inadequate service (3 PUR3d 145).

The court had said that appropriate punitive action for inadequate service

should be taken in a proceeding separate from the rate proceeding.

The commission noted that it is bound by that decision. Consequently, it denied the show-cause order, saying that if rate increases may not be withheld because of inadequate service, it must follow that a hearing on an application for a rate increase may not be withheld. Then too, it said, if such a hearing were withheld until service was improved, the company would respond by presenting its alleged need for a rate increase to provide funds to finance a service improvement program. *Re Southeastern Teleph. Co. Docket No. 5364-TP, Order No. 2608, May 9, 1958.*



Approval of Transfer of Intrastate Carrier Rights Involves Weighing of Resulting Interstate Operation

UPON application for the transfer of an intrastate motor carrier certificate by a carrier holding an interstate certificate for the same route, the Kentucky commission has authority to consider how the public interest will be affected as a result of the transferee's obtaining interstate operating rights through registration of the intrastate rights under the

Federal Motor Carrier Act, the Kentucky court of appeals held. The commission, in approving the proposed transfer, had assumed that it did not have authority to consider this question.

The commission could have disapproved the transfer if it had found that the result of the transfer would be the creation of an additional interstate carrier

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whose operations would so divert the traffic in interstate freight as to affect adversely the entire freight-hauling business, both interstate and intrastate, over the route in question. It could determine as a matter of regulatory policy, said the court, that such a carrier would not be permitted to sell the intrastate certificate and retain the interstate rights.

But the lower court, too, was in error in setting aside the order approving the

transfer and ordering a denial of the application.

The appellate court then reversed the lower judgment and remanded the case to the commission with directions to exercise its authorized power to determine whether the transfer would be against the public interest. *Cumberland Motor Freight, Inc. et al. v. Huber & Huber Motor Express, Inc. et al.* 311 SW2d 398.

Other Recent Rulings

Invalid Cancellation. A Texas court ruled invalid a commission order canceling a motor carrier certificate on the ground that the carrier did not have proper insurance as required by law, where the commission sought to justify the order on the mere ground that the carrier had failed to file proper proof that insurance was in fact carried. *Texas R. Commission v. W. A. Querner Co.* 310 SW2d 670.

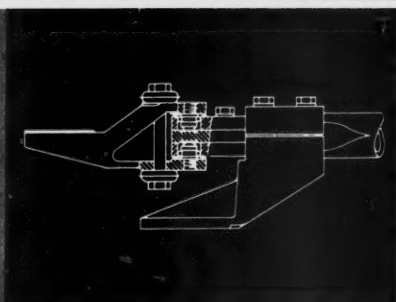
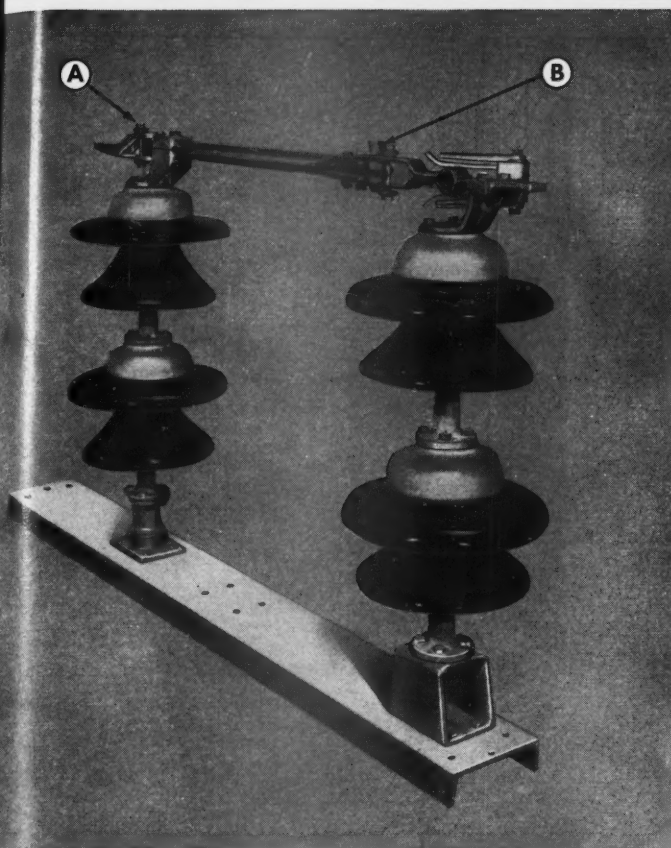
Passenger Trains Discontinued. In separate decisions the Missouri commission authorized two railroad companies to discontinue local passenger trains which produced a monthly out-of-pocket loss of about \$11,000 for each company—an amount found to be greatly disproportionate to the public need as shown by the meager use of the facilities. *Re Chicago, B. & Q. R. Co. Case No. 13,877, April 10, 1958; Re Missouri-K.-T. R. Co. Case No. 13,769, April 8, 1958.*

Crossing Signals Assessment. The Wisconsin commission assessed against a railroad company the entire cost of replacing inadequate crossing signals with automat-

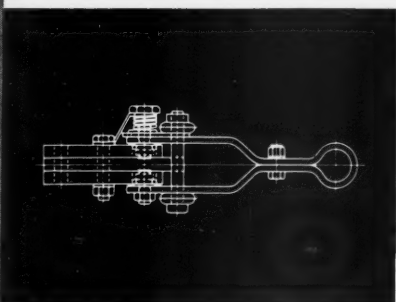
ic protection because of substantial savings which the company would derive from the elimination of manual supervision at the crossings. *Re Chicago & N. W. R. Co.* 2-R-3311, April 17, 1958.

Excessive Connection Charge. A water connection charge of \$175 per house imposed by a municipal water district in a new residential development was held to be excessive and void by a California appellate court, the evidence indicating that the charge was in fact designed to recoup the cost of the lines serving the development. *Guy S. Atkinson Co. v. Highland Park Pub. Utility Dist.* 323 P2d 173.

Gas Rate of Return. Cumberland & Allegheny Gas Company secured authority from the Maryland commission to increase rates sufficiently to earn a return of 6.5 per cent on an average net original cost rate base, considering that the company had been unable, by a substantial margin, to earn somewhat lower rates of return allowed in several recent rate proceedings. *Re Cumberland & Allegheny Gas Co. Case No. 5545, April 24, 1958.*



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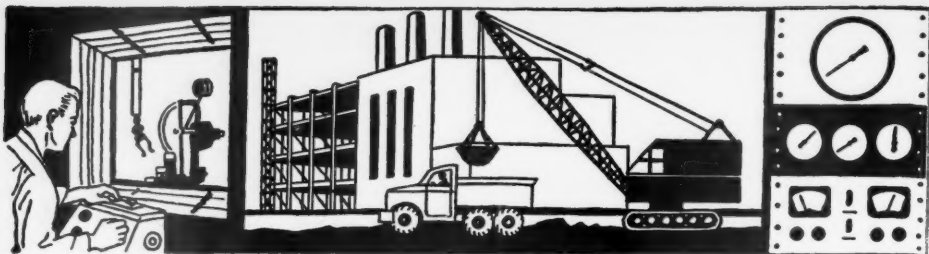
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Industrial Progress

New Jersey Natural Gas Enlarges Program

THE New Jersey Natural Gas Company announced recently it plans to spend an extra million dollars for construction this year to meet accelerated growth in Monmouth and Ocean counties.

Dale B. Otto, president of the company, said that in the next few years expansion in the two-county area will surpass growth of recent years.

The extra million will be used to extend company mains and also to reinforce its existing distribution system, Mr. Otto said.

The original construction budget has been set at \$2,670,000 according to Mr. Otto.

Pennsylvania Power to Spend \$11,979,000 on Construction

PENNSYLVANIA Power Company estimates its 1958 construction program to be approximately \$11,979,000. Of this amount, approximately \$8,452,000 will be for the completion of the installation of a new steam-electric generating unit of 90,000 kilowatts capacity at its new Castle power plant and for miscellaneous additions and improvements to that plant, approximately \$663,000 for transmission line and substation additions,

approximately \$2,454,000 for distribution system additions, and approximately \$410,000 for miscellaneous additions.

San Diego Gas & Elec. Orders G-E Automatic Dispatching System

SAN Diego Gas and Electric Company has ordered an automatic dispatching system from General Electric Company.

The ADS equipment will be used by the Southern California utility to maintain system frequencies and tie-line schedules.

Engineers at General Electric's Instrument Department—manufacturers of the equipment—say that generation will be allocated among the controlled machines based on loading to equal incremental costs.

In the three years since General Electric announced the development of ADS, 16 utilities have purchased systems for automatic performance of routine and repetitive functions of electric utility operation.

I-T-E Completes Expansion of Power Network Analyzer to Double Its Size, Scope

EXPANSION of its electrical network analyzer—doubling equipment and size and capabilities—has been completed by I-T-E Circuit Breaker Company, Philadelphia.

The new analyzer, one of the largest units of its kind in the world, valued at more than \$300,000 can now simulate most existing electric power systems in the country.

It will give electric utility and industrial engineers a significantly expanded facility for planning the growth of the country's electric power systems.

I-T-E rents the services of the huge computer-like analyzer on a daily fee

basis to those wishing to simulate, thus study the behavior and meet needs of different power systems.

The analyzer can handle all of power system problems, including studies of load flow, short circuits and transient or steady-state stability.

Incorporating three banks of 10-foot-high equipment, whose overall width is 50 feet, the analyzer fills a large air-conditioned room at I-T-E's Philadelphia headquarters plant.

It incorporates 24 generator and 406 circuit elements and 300 bus bars.

New concepts and radical advances in design are incorporated in the machine to speed operation, cut down calculations to a bare minimum and provide exceptional accuracy.

Sales Headquarters of Reynolds Metals Moves to Richmond

THE sales headquarters of Reynolds Metals Company has moved from Louisville, Ky., to Richmond, Va.

All of the aluminum company's headquarters functions—engineering, manufacturing, marketing, advertising, research and corporate general affairs—are now located in Richmond.

Headed by David P. Reynolds, executive vice-president for sales, 400 sales employees were involved in the mass transfer.

Unaffected by the move are Reynolds aluminum fabricating operations in Louisville.

Dravo Corp. to Fabricate Generator For West Texas Utilities

DRAVO Corporation, Pittsburgh, has been awarded a contract to fabricate piping for a 50,000 kw generator for West Texas Utilities Company.

(Continued on page 22)

PUBLIC UTILITIES FORTNIGHTLY—JULY

Attorney, age 34, available. 10 yrs. experience (one employer), gas & electric utility law; 6 yrs. specialization, FPC rate cases. Admitted Fla., Ohio, USCA(DC), US Sup. Court. A.B., LL.B., U. of Michigan. Member American Bar, Federal Power Bar Associations, Kiwanis, Phi Delta Phi, Phi Delta Theta. Honorary scholastic fraternities: Phi Kappa Phi, Phi Eta Sigma, Kappa Phi Sigma. Married, 3 children. **Box 73, Public Utilities Fortnightly, 332 Pennsylvania Building, Wash. 4, D. C.**

In 1953 Pioneer joined with other groups, all reporting to the Atomic Energy Commission, for constant study of atomic energy application. Today Pioneer is qualified as a consultant to industry in the application of atomic reactor systems to the generation of electric power. Presently, Pioneer is acting as architect-engineer and supervisor of construction of the 66,000 kw commercial atomic power plant shown here. Allis-Chalmers Mfg. Co. is the prime contractor. Scheduled for 1962 completion, the plant, for the Northern States Power Co., will be known as the "Pathfinder".

Organized as Central Utilities Atomic Power Associates, these utilities will share in the research and development costs: Northern States Power Co., Central Electric and Gas Co., Interstate Power Co., Iowa Power and Light Co., Iowa Southern Utilities Co., Madison Gas and Electric Co., Mississippi Valley Public Service Co., Northwestern Public Service Co., Ottetail Power Co., St. Joseph Light and Power Co., Wisconsin Public Service Corp. PIONEER SERVICE & ENGINEERING CO., 231 South La Salle Street, Chicago, Illinois.

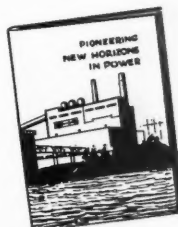
ATOMIC PROGRESS

THROUGH



Pioneer Service
& Engineering Co.

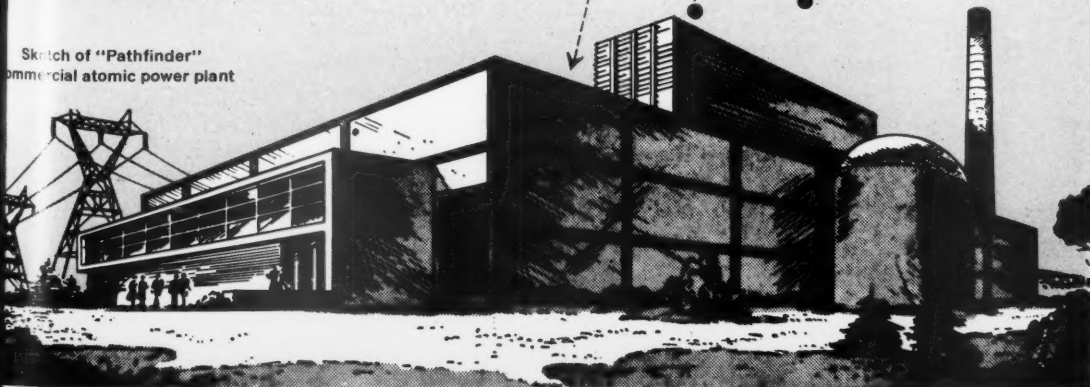
231 South La Salle Street,
Chicago, Illinois



NEW!

On your letterhead, write for 40-page booklet, "Pioneering New Horizons in Power". Describes, illustrates Pioneer's engineering services, and corporate services, from financing to operation.

Sketch of "Pathfinder"
commercial atomic power plant



Trends and outlook for

TAX-EXEMPT BONDS

at mid-year 1958

In their take-home income for the investor, tax-exempt bonds continue to present a very tangible advantage over taxable investments—and this desirable advantage will be little affected by any tax revisions.

This and other aspects of modern investing are discussed in our new 1958 Mid-Year Survey of the Tax-Exempt Bond Market. Available to you without cost or obligation, the Survey examines today's investment opportunities, developments affecting the market, supply and demand, prices, trends, outlook . . . and helps you appraise these factors in relation to your own investment requirements.

Send for this informative and up-to-date Survey, and receive with it our tax comparison chart showing the income required from taxable securities to equal the yield from tax-exempt bonds.

Ask for
folder PF-7.



HALSEY, STUART & CO. INC.

123 SOUTH LASALLE STREET, CHICAGO 90
35 WALL STREET, NEW YORK 5
AND OTHER PRINCIPAL CITIES

INDUSTRIAL PROGRESS—(Continued)

lene, Texas. The piping will be installed at the company's Paint Creek station, Haskell, Texas by Brown and Root, Inc., Houston, Texas.

N. J. Ambrose Elected Treasurer Of Stone & Webster Service Corp.

THE election of Nelson J. Ambrose as treasurer of Stone & Webster Service Corporation has been announced by Richard N. Benjamin, president. He succeeds Kenneth R. Teele who has resigned to accept the presidency of Mobile Gas Service Corporation, Mobile, Alabama.

Mr. Ambrose has been assistant treasurer of the Service Corporation since 1943.

He joined the company in its Boston office in 1928, following his graduation from Boston University. From 1930 to 1934 he served as auditor and chief accountant of Gulf States Utilities Company in Lake Charles, Louisiana, and Beaumont, Texas. He rejoined Stone & Webster in 1935 and in 1938 was transferred to its New York office.

New Booklet From Federal Pacific Electric

"BULLETIN S," a twelve-page two-color booklet briefly describing its building and industrial lines of electrical distribution and control equipment, has been issued by Federal Pacific Electric Company.

Contents cover sixteen different types of equipment. These are: power transformers, distribution transformers, unit substations, power centers, metal-clad switchgear, low-voltage metal-enclosed switchgear, bus duct, building type switchboards, panelboards, StABreaker panelboards, Stab-lok, AB-I enclosed circuit breakers, motor control centers, motor controls, safety switches, and other products.

Copies of the booklet can be obtained by writing Federal Pacific Electric Company, 50 Paris street, Newark 1, New Jersey.

Triangle Conduit & Cable Names Edward Simmons Director of Sales, Electrical Div.

THE appointment of Edward Simmons as director of sales, Electrical Division of Triangle Conduit & Cable Company, Inc., New Brunswick, New Jersey, was announced by Carl S. Menger, executive vice president. In this post he will be responsible for the sale of Triangle electrical products,

including Power, Control and Signal Cables, Building Wire and Cable.

Mr. Simmons joined Triangle in 1937. He became assistant manager of the Special Cable Division in 1942 and manager in 1947. He was assistant to the director of sales in 1947. Prior to his present assignment, he held the post of executive assistant to the vice president in charge of sales.

Fully Automatic Gas Pipelines Envisioned by Engineers

THE early advent of fully automatic gas pipelines was predicted recently by the National Telemetering Conference in Baltimore, Md. The conference was sponsored by the American Institute of Electrical Engineers, the American Rocket Society, the Institute of the Aeronautical Sciences and the Instrument Society of America.

"The art of pipeline cybernetics in its infancy and before long distance transmittal of telemetering intelligence will make possible the loop operation of pipeline flow entry of the automatic pipeline," said F. Vinton Long, chief of the Communications Section, Engineering Department, Texas Eastern Transmission Corporation.

Mr. Long pointed out that there are no fully automatic gas pipelines operating without human vision from a previously programmed set of instructions.

"Automation of pipelines," he said, "requires the use of feedback control system and we just don't have the facilities at this time. It is just an awful lot of telemetering, but now the means of obtaining such information is available and very shortly someone will develop an automatic pipeline."

Automation of gas pipeline is a problem different from liquid lines, due to high pressures, impurities, output at different places, changing pipe size, etc., he observed.

G-E Announces Industry's All-Transistor 10-Watt DA For Carrier Current Pilot

GENERAL Electric Company Communication Products Department, Syracuse, N. Y., has announced development of the first 10-watt carrier line carrier current pilot equipment to be made available to the utility industry in an all-transistor design.

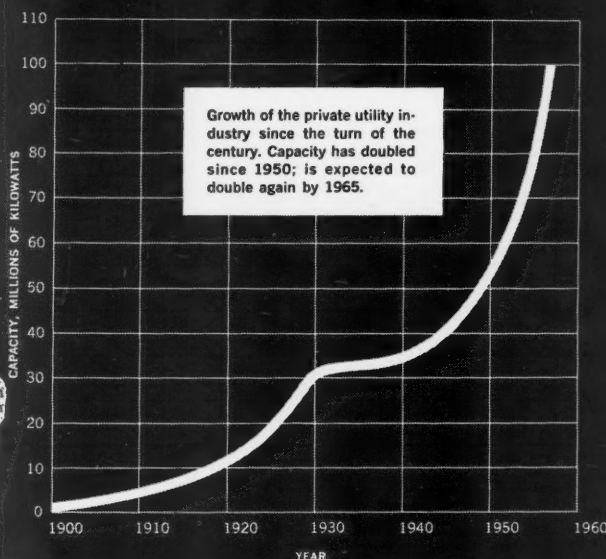
Described as a major step in the version of power line carrier equipment (Continued on page 25)

New York Herald Tribune, May 16, 1958

Kw. Capacity Hits 100 Million

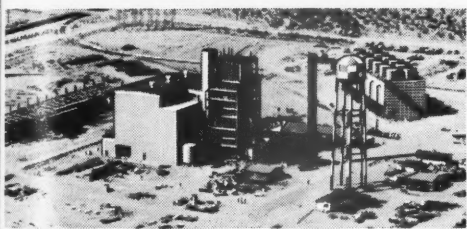
A milestone in electricity generation has been reached with the installation of the 100,000,000th kilowatt of investor-owned capacity, it was reported yesterday by Edison Electric Institute.

On May 11, Tucson Gas, Electric Light & Power Co. crossed the threshold with installation of a 75,000-kilowatt generator. A record 15,750,000 kilowatts of new generating equipment is being installed this year by electric utilities, including government operations. The electric utility industry has doubled its installed capacity since 1950.



Growth of the private utility industry since the turn of the century. Capacity has doubled since 1950; is expected to double again by 1965.

A major milestone in America's march toward GREATER PRODUCTIVE CAPACITY HIGHER LIVING STANDARDS



POWERED BY A C-E BOILER, this is the plant that brought the utility industry across the 100,000,000-kw threshold. It's the 75,000-kw Plant No. 4, Tucson Gas, Electric Light & Power Co., Tucson, Ariz. (Sanderson & Porter, Consulting Engineers)

Continuing their remarkable expansion of electrical generating capacity, America's investor-owned utility companies reached, in May, the significant landmark of 100,000,000 kilowatts. That's about double the capacity—privately and publicly owned—of any other country in the world.

Growth like this puts real meaning in the words "Live Better . . . Electrically." For example, it means the average American housewife today has the electrical equivalent of many servants helping her to do her housework . . . the average factory worker has the equivalent of 367 helpers. Thus, the utility industry, in its constant drive to provide more power for more people, has had perhaps the greatest single share of the job of assuring a steady rise in the standard of living in this country.

Combustion Engineering, too, has had a big part in this growth. In the past ten years alone, C-E Boiler installations have accounted for more than 25,000,000 kw of new capacity. Earlier C-E installations add many more millions of kilowatts to this figure. And, incidentally, the Tucson plant (left), which pushed the utility capacity over the 100,000,000-kw mark, is powered by a C-E Boiler.

As the utility industry heads toward its second hundred-million kilowatts, Combustion Engineering congratulates it for its vital role in making America ever more productive and prosperous.

COMBUSTION ENGINEERING

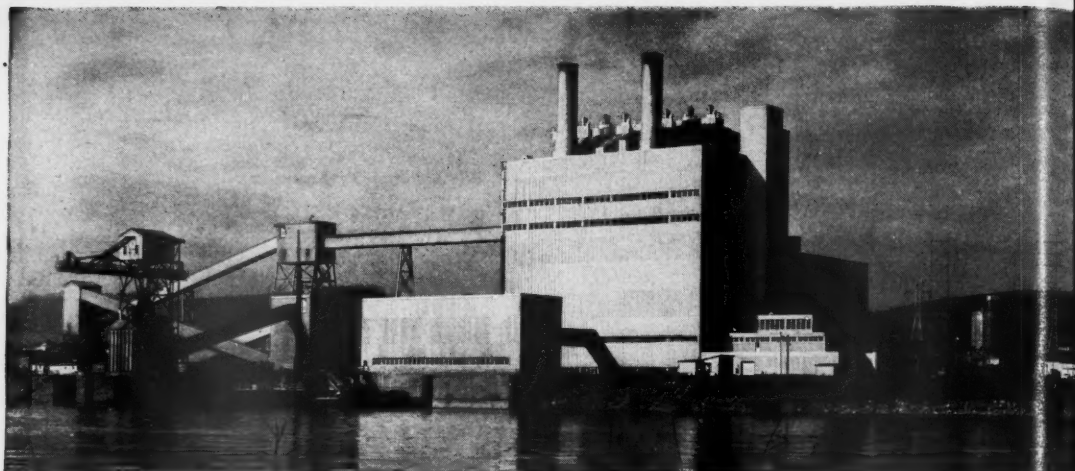


C-161

Combustion Engineering Building
200 Madison Avenue, New York 16, N. Y.

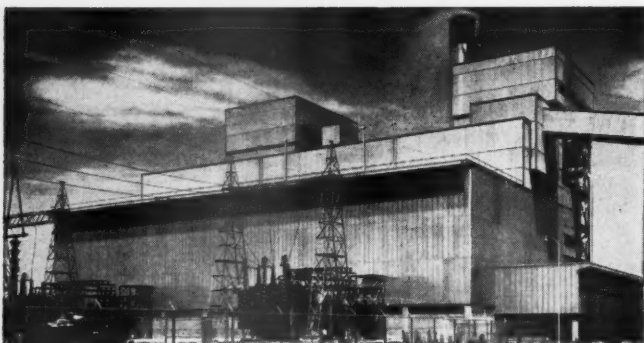
ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; NUCLEAR REACTORS; PAPER MILL EQUIPMENT; PULVERIZERS; FLASH DRYING SYSTEMS; PRESSURE VESSELS; SOIL PIPE

THE ABOVE ADVERTISEMENT, recognizing the achievements of the utility industry, appeared in recent issues of FORTUNE, BUSINESS WEEK and the WALL STREET JOURNAL. The combined circulation of these publications--well over a million--includes leaders in every area of business and government.



Why fine new power plants everywhere have Q-Panel Walls

Builders of new power plants in all parts of the country have specified Q-Panel walls for the following very good reasons: 1. Q-Panels are permanent, dry and noncombustible, yet may be demounted and re-erected elsewhere to keep pace with expansion programs. 2. Q-Panels are light in weight, thus reducing the cost of framing and foundations. 3. Q-Panels have high insulation value . . . superior to a 12" masonry wall. 4. Q-Panels are quickly installed because they are hung, not piled up. An acre of wall has been hung in 3 days. For more good reasons for using Q-Panel construction, use the coupon below and write for literature.



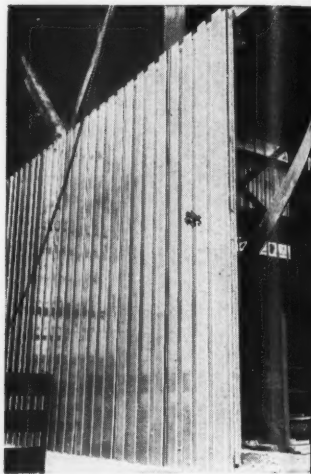
Robertson Q-Panels

H. H. Robertson Company

2424 FARMERS BANK BLDG. • PITTSBURGH 22, PA.

Offices in Principal Cities

Q-Panel walls grace the new Elram Plant (above) near Pittsburgh. It was by Duquesne Light Company's Engineering and Construction Department. The Corporation was General Contractor.



Q-Panel walls (above) go up quickly any weather because they are dry hung in place, not piled up.

More than 32,000 sq. ft. of Q-Panels was to enclose the impressive Hawthorn Electric Station (left) of the Kansas City, Power and Light Company. Ebasco Services, Inc., designed and built the plant.



Please send a free copy of your Q-Panel Catalog

NAME

FIRM

ADDRESS

PUFI

INDUSTRIAL PROGRESS— (Continued)

to the techniques of transistorized equipment, the new equipment will be developed by General Electric in the near future. The announcement now coincides with the kick-off of General Electric's new Communication Products Department participation in "Operation Reliability," a company-wide program designed to focus attention on product

used by electric utilities, carrier equipment is an important part of the high speed relaying systems which are essential in providing a degree of continuity of electric

power. Transistorized, the new transmitter-receiver unit (G-E Type CS-100) provides a channel for directional relaying or supervisory control functions and AM telephone

operation. Reliability of transmitter output at high power levels in a completely transistorized unit greatly increases reliability under adverse conditions as compared with vacuum tube systems. It thus offers improved security to the utility user with minimum maintenance.

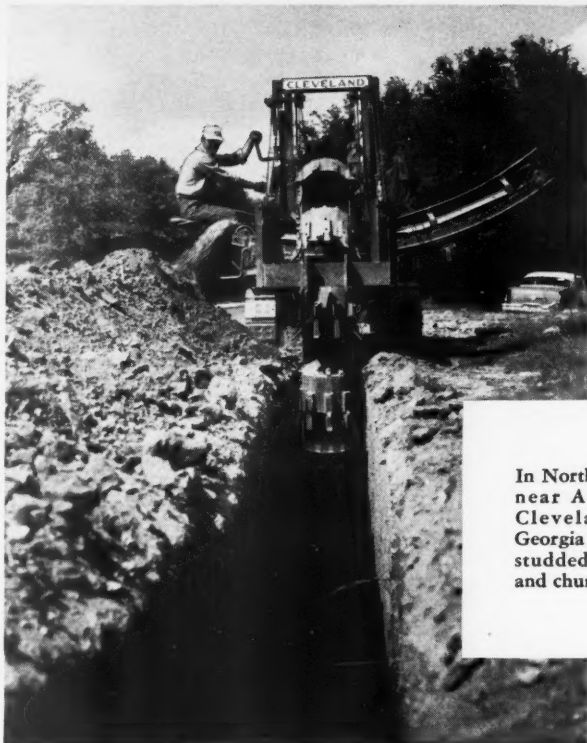
New Recording Annunciator Records Power Shutdowns, Helps Prevent Recurrence

NEW recording annunciator unit is said accurately monitor equipment operation and records shutdowns in unattended and attended stations and can be set to record both mechanical and electrical malfunctions. Development has been completed by Panellit, Inc., 7401 No. Hamline, Skokie, Illinois.

According to the announcement, downtime and maintenance are reduced, operating costs reduced, and customer satisfaction increased because the unit pinpoints trouble and gives statistical information requiring no decoding which helps in repetition of breakdowns. For each event, the exact time interval, the performance of steam valve closure, generator circuit breaker and overspeed trip resets is permanently recorded, providing a permanent record of sluggish functioning permitting immediate preventative

Model RA is a compact clock-timer and relay unit which records to 1/100 minute accuracy the time an event goes off-normal and the time it returns to normal. If two pieces of equipment go off-normal the first is positively identified to within a statistical accuracy of 1 cycle. Subsequent disturbances are recorded

(Continued on page 26)



In North Druid Hills near Atlanta, this Cleveland 95 digs Georgia red clay, often studded with quartz and chunks of granite.

nine Clevelands... never a failure in the field

"We have used Clevelands ever since 1946, when our company was organized," says C. V. Lanier, field superintendent for the Concrete Construction Co. of Atlanta, Ga., "and currently we are operating nine. Mechanically, we have never had a Cleveland halt in the field.

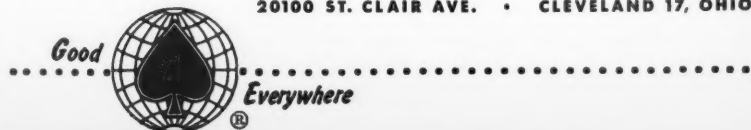
"We have encountered every sort of obstacle and have trenched through blue granite rock, sand rock, shale, stumps, on flat land and hilly, through all types of weather. Our Clevelands have been economical to operate, easy to maintain mechanically, adaptable to every terrain and simple to handle."



There's nothing like a Cleveland for trenching... accurate... fast... dependable... clean.

The CLEVELAND TRENCHER Co.

20100 ST. CLAIR AVE. • CLEVELAND 17, OHIO



sequentially provided they are at least $\frac{1}{4}$ second apart. If disturbances are less than $\frac{1}{4}$ second apart, the information is retained and advanced to the printer in pre-determined order at the rate of 4 per second. The printer produces this on paper tape, constituting a permanent, compact record telling exactly what happened and how long before it was corrected. Yards of useless blank tape accumulations are eliminated because the tape advances only after a printing. Model RA monitors 8 to 32 points per operational system. Larger units are available.

Louisiana Pwr. & Lt. to Build New 230,000 KW Unit

A NEW steam-electric plant, with a planned capability exceeding that of the present combined installed capacity of all other electric utility plants in the state, will be constructed by Louisiana Power & Light Company.

W. O. Turner, president of the company, announced that construction would begin soon on the first unit of the new plant, which will have a capability of 230,000 kilowatts. Planned capability of the plant when completed

will be two million kilowatts. The plant will be on the side of the spillway, in the St. Charles parish, approximately 23 miles New Orleans.

The first unit will be designed that either coal, gas or oil may be used as fuel, Mr. Turner said.

The addition of the new plant to Louisiana Power & Light Company's present generating capability at a unit under construction at Sterl near Bastrop will bring the company's total to 905,700 kilowatts, double what it was at the end of

Public Service Elec. & Gas Co. Orders 320,000 KW Unit from G-E

A 320,000-kilowatt cross-compound steam turbine-generator unit has been ordered by the Public Service Electric and Gas Company, New Jersey, for the Large Steam Turbine-Generator Department of General Electric Company. It is identical to a 320,000 machine ordered last year by the company.

These two units, largest ever ordered for the power company system, will be installed in the Mercer generating station erected on the Delaware river near Trenton, N. J.

The twin units with their total 640,000 kilowatts will be capable of furnishing the average annual electrical needs of nearly 1,000,000 people.

Delivery of the first General Electric unit is scheduled for late 1959 and the second for mid-1960.

The turbines will be of the 1800 rpm, cross-compound, six flow, type with 26-inch last-stage blades. The initial steam will enter the pressure section of the primary turbine at a pressure of 2400 psig and temperature of 1100° F.

Kaiser Booklet on All Aluminum Alloy Conductor

COMMERCIAL availability of new all aluminum alloy conductors (AAAC) for distribution systems are listed in a booklet published by Kaiser Aluminum & Chemical Company, Inc.

AAAC has been sold by the Aluminum Company of America on a restricted basis for test purposes. Major applications include urban mainlines, secondaries, multiplex neutrals for duplex, triplex and quadruplex service drops, and municipal street lighting systems.

(Continued on page 28)

This advertisement is neither an offer to sell nor a solicitation of offers to buy any of these securities. The offering is made only by the Prospectus.

NEW ISSUE

June 12, 1958

\$50,000,000

Niagara Mohawk Power Corporation

General Mortgage Bonds, 3 $\frac{7}{8}$ % Series due June 1, 1988

Price 101.335%

plus accrued interest from June 1, 1958

Copies of the Prospectus may be obtained from any of the several underwriters only in States in which such underwriters are qualified to act as dealers in securities and in which the Prospectus may legally be distributed.

The First Boston Corporation

Kuhn, Loeb & Co.	Eastman Dillon, Union Securities & Co.	Lehman Brothers
Carl M. Loeb, Rhoades & Co.	Merrill Lynch, Pierce, Fenner & Smith	
Salomon Bros. & Hutzler	Stone & Webster Securities Corporation	
A. C. Allyn and Company Incorporated	Equitable Securities Corporation	Dean Witter & Co.
Clark, Dodge & Co.	Coffin & Burr Incorporated	Laurence M. Marks & Co.
Reynolds & Co.	The Robinson-Humphrey Company, Inc.	Shearson, Hammill & Co.
Shields & Company	Tucker, Anthony & R. L. Day	G. H. Walker & Co.
Alex. Brown & Sons	Ira Haupt & Co.	H. Hentz & Co.
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Henry Herrman & Co.	J. A. Hogle & Co.	Granbery, Marache & Co.
Nesbitt, Thomson and Company, Inc.	Putnam & Co.	Laird, Bissell & Meeds
J. S. Strauss & Co.	Swiss American Corporation	Stein Bros. & Boyce
C. F. Childs and Company Incorporated	Fahey, Clark & Co.	Joseph Walker & Sons
Moore, Leonard & Lynch	Chas. W. Scranton & Co.	Model, Roland & Stone
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Elkins, Morris, Stokes & Co.	Sterne, Agee & Leach	Merrill, Turben & Co., Inc.
Yarnall, Biddle & Co.	First Southwest Company	Sutro & Co. Sweney Cartwright & Co.
Homer O'Connell & Co., Inc.	Pacific Northwest Company	Interstate Securities Corporation
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Thornton, Mohr and Farish	Chace, Whiteside & Winslow, Inc.	Sutro Bros. & Co.
Hugo Marx & Co.	McJunkin, Patton & Co.	Hanrahan & Co., Inc.
		Townsend, Dabney & Tyson

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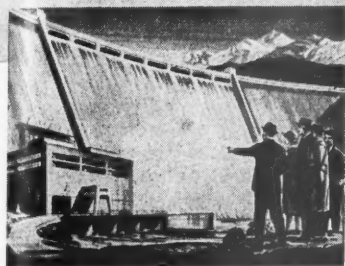
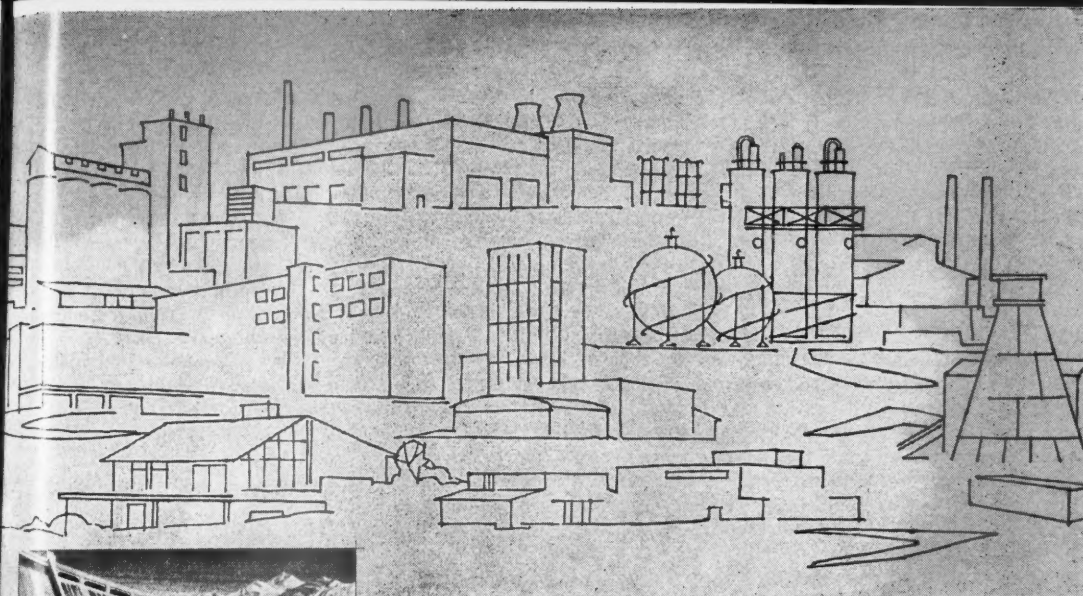
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QUICK FACTS — 1957

	Amount	% Increase Over 1956
Net Income for		
Common Stock	\$ 5,945,997	9
Per Share of Common Stock	\$1.82	9
Per Cent of Operating Revenue	22.0	2
Dividends Paid per Share....	\$1.36	8
Operating Revenues	\$26,983,317	7
Gross Additions to Utility Plant	\$28,887,710	28
Kilowatt-hour Sales (in thousands)	2,243,080	8
Customers at End of Year....	200,059	4
Average Annual Kilowatt- hour Use Per Residential Customer	7,642	6



For a copy of Puget's 1957
Annual Report, write:
Frank McLaughlin, President
860 Stuart Building,
Seattle 1, Washington

FOR PUGET POWER . . . Continuing Progress In A Growing Area

During the past year, Puget continued to forge ahead through positive performance.

GROWTH: Population in Puget's area increased 74.2% in the 15 years ended 1955 and is forecast to rise by 60% in the period 1955-65. Puget's load growth is expected to continue upward, consistent with past performance.

INDUSTRIAL DEVELOPMENT: Puget's territory is one of the most economically promising sections in the U.S. In cooperation with civic, business and governmental groups, the Company is working to help realize the area's potential for economic growth.

STABILITY OF REVENUE: With 57% of its total revenues derived from the home use of electricity, the company is less vulnerable revenue-wise in an economic decline. Also, Puget serves a well balanced, decentralized area of 3,200 square miles which includes 270 communities and adjacent rural areas.

ADEQUATE FUTURE POWER: Through its own new generation—which totals 180,000 kilowatts—long-term agreements with the Chelan and Grant County Public Utility Districts and other resources, Puget plans to have sufficient power available to meet a projected peak demand of around 1,000,000 kilowatts in the mid-1960's.

ENDURING FAITH: Puget faces the future firm in the belief that this country's sources of strength are unequalled, that the national economy is basically solid and that this Company possesses the key ingredients of growth and stability.

PUGET POWER

PUGET SOUND POWER & LIGHT COMPANY

Copies of the booklet, "All Aluminum Alloy Conductor," may be obtained free from Kaiser Aluminum & Chemical Sales, Inc., Department NR-12, 919 North Michigan Ave., Chicago 11, Ill.

Heat Into Power Without Moving Parts

TWO brilliant MIT scientists have developed what looks like the answer to atomic heat conversion directly into electricity. It's called an Electron-Engine and has no moving parts. The

basic principle of the device is that when two metal plates are placed side by side and one is made hotter than the other, electrons jump from the hot plate to the cooler plate. A stream of electricity is thereby formed that can be used for any electrical purpose. Under development by George N. Hatsopoulos and Joseph Kaye, Professors in the Department of Mechanical Engineering at Massachusetts Institute of Technology, the electron engine can obtain a thermal efficiency of about 12 per cent, but 30 per cent efficiency is believed possible.

A relatively simple instrument appears that an engine can be using ordinary or nuclear fuels will enable it to yield 5,000 to 10 watts per cubic foot of total space. On the basis of a 10 per cent efficiency achievement the electron engine should be more than competitive in the small power plant field.

Isotope heating is a very promising possibility in the near future, according to Professor Hatsopoulos. He says that isotopes made radioactive give back this energy in the form of heat. He tells us,

"Radioactive isotopes with a long life could readily be used as a source for the new engines."

The two MIT engineer-professors are also investigating another type of electron engine which uses crossed electric and magnetic fields to control the flow of electrons. They predict that this device may attain even higher efficiencies than their present model.

They point out, however, that a great deal of development work lies ahead before thermo-electron engines can be put into commercial operation. Development work has been undertaken by Thermo-Electron Engineering Corporation of Cambridge, a research organization established about two years ago in the field of energy conversion devices.

R-R Univac Users Conference October 20-21, 1958

THE next Remington Rand Univac Users Conference will meet in Lexington, October 20-21. All users of Remington Rand Univac I and II computer systems will be invited to participate in this Conference. John Hancock Mutual Life Insurance Company, the first company to use a Univac II system, will play host to the meeting.

The agenda will be prepared by the conference executive board and will cover topics of general interest suggested by the four standing committees: Programming; Operational Procedures and Maintenance; Systems Applications and Evaluation of New Equipment; Data Processing Administrative and Managerial Problems. The agenda will be distributed in September.

Univac I and II systems users, currently on the Conference mailing list, may write to R. M. Petersen, Secretary, Univac Users Conference, General Electric Company, Appleton Park, AP 1-109, Louisville, Kentucky.

This advertisement is neither an offer to sell nor a solicitation of offers to buy any of these securities. The offering is made only by the Prospectus.

NEW ISSUE

June 18, 1958

240,000 Shares Arizona Public Service Company

\$2.40 Cumulative Preferred Stock, Series A
\$50 Par Value

Price \$50 per share
plus accrued dividends from June 24, 1958

Copies of the Prospectus may be obtained from any of the several underwriters only in States in which such underwriters are qualified to act as dealers in securities and in which the Prospectus may legally be distributed.

The First Boston Corporation

Eastman Dillon, Union Securities & Co.

Refsnes, Ely, Beck & Co.

Stone & Webster Securities Corporation

A. C. Allyn and Company

Incorporated

Coffin & Burr

Incorporated

Schwabacher & Co.

A. G. Edwards & Sons

J. A. Hogle & Co.

Laurence M. Marks & Co.

Wagenseller & Durst, Inc.

Bosworth, Sullivan & Company, Inc.

Kenneth Ellis & Co.

Goodbody & Co.

Smith, Moore & Co.

The First of Arizona Company

Laird & Company,

Corporation

Hemphill, Noyes & Co.

Lester, Ryons & Co.

Spencer Trask & Co.

Wood, Struthers & Co.

Ball, Burge & Kraus

Hill Richards & Co.

Shuman, Agnew & Co.

Bateman, Eichler & Co.

Davis, Skaggs & Co.

First California Company

First Southwest Company

Pasadena Corporation

Brush, Slocumb & Co. Inc.

Jones, Kreeger & Hewitt

Pacific Northwest Company

Hooker & Fay

Grimm & Co.

Stroud & Company

Incorporated

Sutro & Co.

Bluth & Co., Inc.

Merrill Lynch, Pierce, Fenner & Smith

William R. Staats & Co.

Dean Witter & Co.

Salomon Bros. & Hutzler

Paine, Webber, Jackson & Curtis

Irving Lundborg & Co.

Shuman, Agnew & Co.

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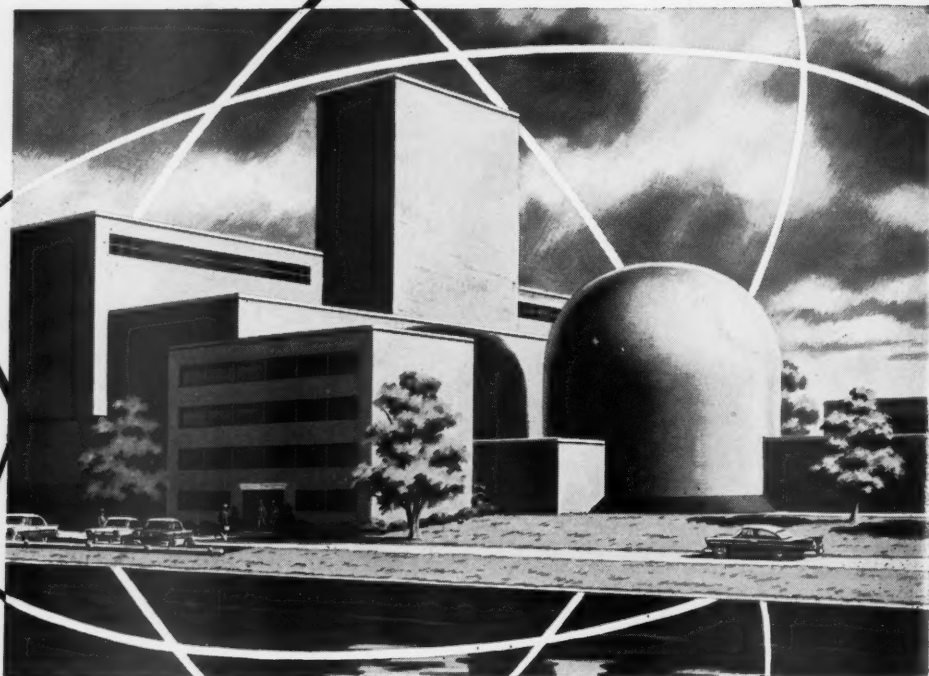
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